Sree Narayana Guru College of Engineering & Technology

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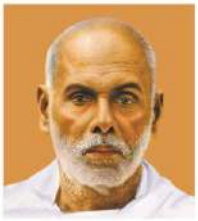

DETAILS OF CERTIFICATEVALUE ADDED COURSES DURING THE LAST FIVE YEARS

Est. 2003

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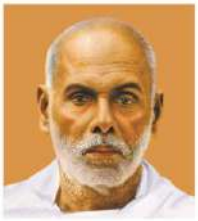

DEPARTMENT OF CIVIL ENGINEERING

Sree Narayana Guru College of Engineering & Technology
CHALAKKODE P.O., KOROM, PAYYANUR, KANNUR-670 307

5 DAYS HANDS ON TRAINING ADVANCED QUANTITY SURVEYING

FACULTY COCORDINATORS
MS. POOJA K P
MS REVATHI P

STUDENT COORDINATORS
ANANJANA C
SREEHARI KK

02-05-23 TO 06-05-23

AT CE SEMINAR HALL

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF
ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON ADVANCED QUANTITY SURVEYING

(02/05/2023 to 06/05/2023)

SCHEDULE

Day 1 – 02/05/2023	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Inauguration & Talk By **Ms. Pooja K P** **Assistant Professor SNGCET** TOPIC :Introduction to Quantity surveying & Fundamentals of QSV
Day2 – 03-/05/2023	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Introduction to Advanced Quantity Surveying & importance
Day 3 – 04/05/2023	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Estimation of Water tank
Day 4 – 05/05/2023	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Estimation of Retaining Wall
Day -5 – 06/05/2023	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Valuation Techniques & Closing Ceremony

Coordinator

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

HOD

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON ADVANCED QUANTITY SURVEYING

SYLLABUS

1. **GENERAL**
   a) Tender Documents
   b) Drawings
   c) Civil & Mep Dwgs
   d) Architectural Drawing
   e) Structural Drawing
      Column Layout, Foundation Layout, Tiebeam Layout/Gf, Layout First Floor Frame Layout, Roof Frame, Layout Structural Details: Rein & Size
   f) Items Concrete
   g) Scope Of Works Civil Contractor
   h) Foundations
   i) Beams
2. **COST**
   a) Material Cost
   b) Unit Cost
   c) Labour Cost
   d) Project Cost
   e) Cost Variance

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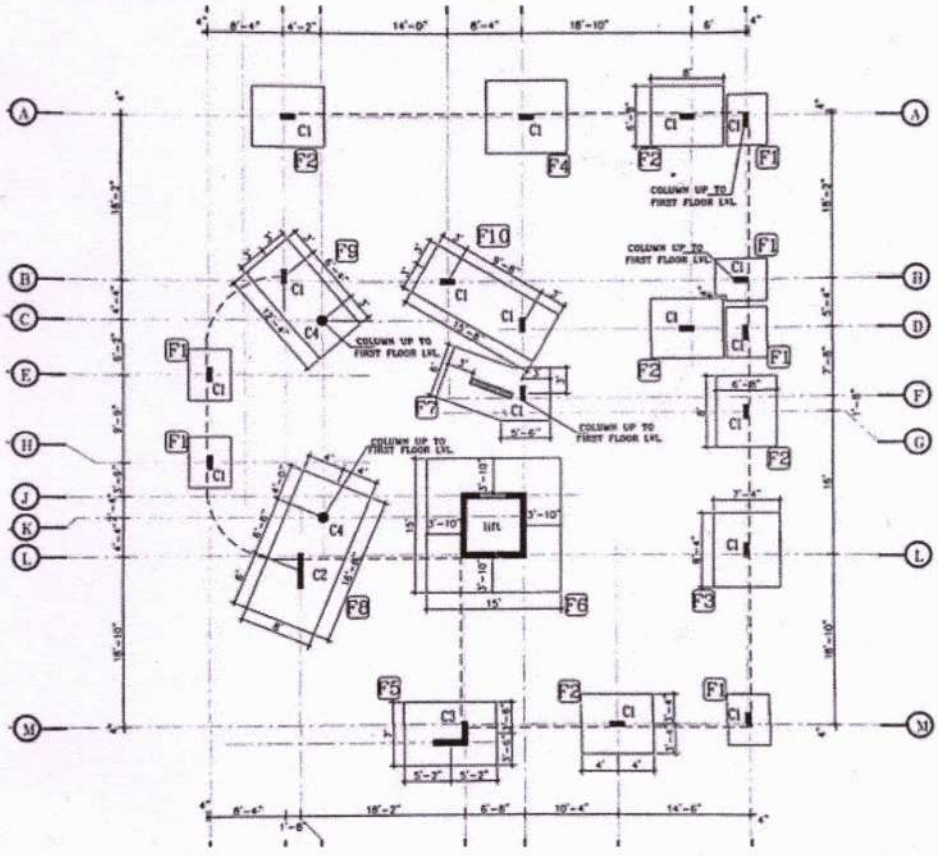
3. CONVERSION AND ITS IMPORTANCE



SCHEDULE OF FOOTINGS

TYPE	SIZE (L B D)	REINFORCEMENT			
		LONG SPAN STEEL		SHORT SPAN STEEL	
		BOTTOM	TOP	BOTTOM	TOP
F1	5'-8"x4'-8"x16"	Y12@6"c/c		Y12@6"c/c	
F2	6'-8"x8'-0'x20"	Y10@6"c/c		Y10@6"c/c	
F3	8'-4"x7'-4"x20"	Y10@5"c/c		Y10@5"c/c	
F4	9'-0"x8'-0"x20"	Y12@4"c/c		Y12@4"c/c	
F5	10'-4"x7'-0"x20"	Y12@4"c/c		Y12@4"c/c	
F6	15'-0"x15'-0"x20"	Y16@5"c/c	Y16@5"c/c	Y16@5"c/c	Y16@5"c/c
F7	AS/DWG.x20"	Y12@6"c/c	Y12@6"c/c	Y12@6"c/c	Y12@6"c/c
F8	16'-6"x8'-0"x20"	Y12@4"c/c	Y12@4"c/c	Y12@4"c/c	Y12@6"c/c
F9	12'-4"X6'-0"x20"	Y12@4"c/c	Y12@4"c/c	Y12@4"c/c	Y10@4"c/c
F10	15'-8"X6'-0"x20"	Y12@4"c/c	Y12@4"c/c	Y12@4"c/c	Y10@4"c/c

4. COMPOUND WALL SEQUENCE

a. Excavation.

b. Compaction

c. Roadbase

d. Compaction

e. PCC

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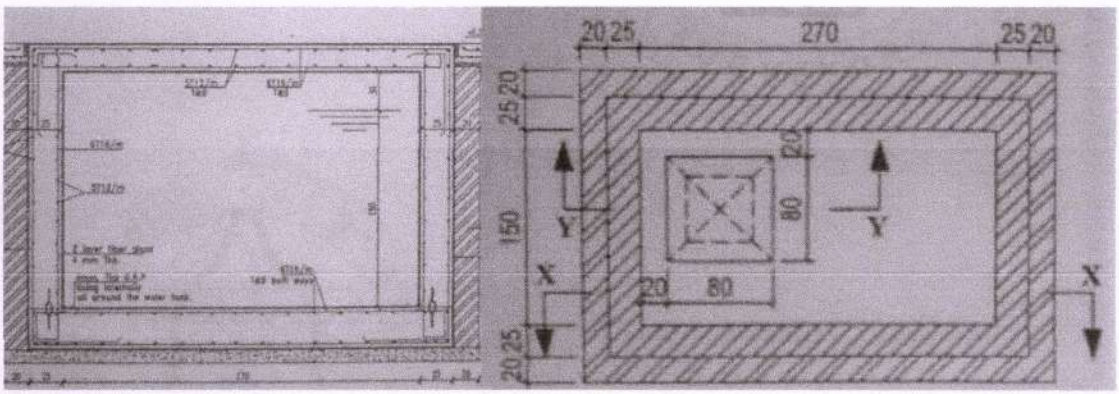
f. Foundation
g. Neck Columns
h. Solid blocks
i. Tie Beams
j. Bitumen
k. Backfilling
l. Hollow Block Works
m. Stiffener Columns
n. Coping Beam
o. Plastering

5. WATER TANK

a) Water Tank Materials
b) Water Tank Man
c) Machinery
d) Sequence Water Tank
e) Common Mistakes Reinforcement



SECTIONPLAN

6. BLOCK WORKS

a) Thermal Insulated
b) Hollow Blocks
c) Solid Blocks
d) Horldy Blocks
e) Autoclaved Aerated Block
f) Bed Joint

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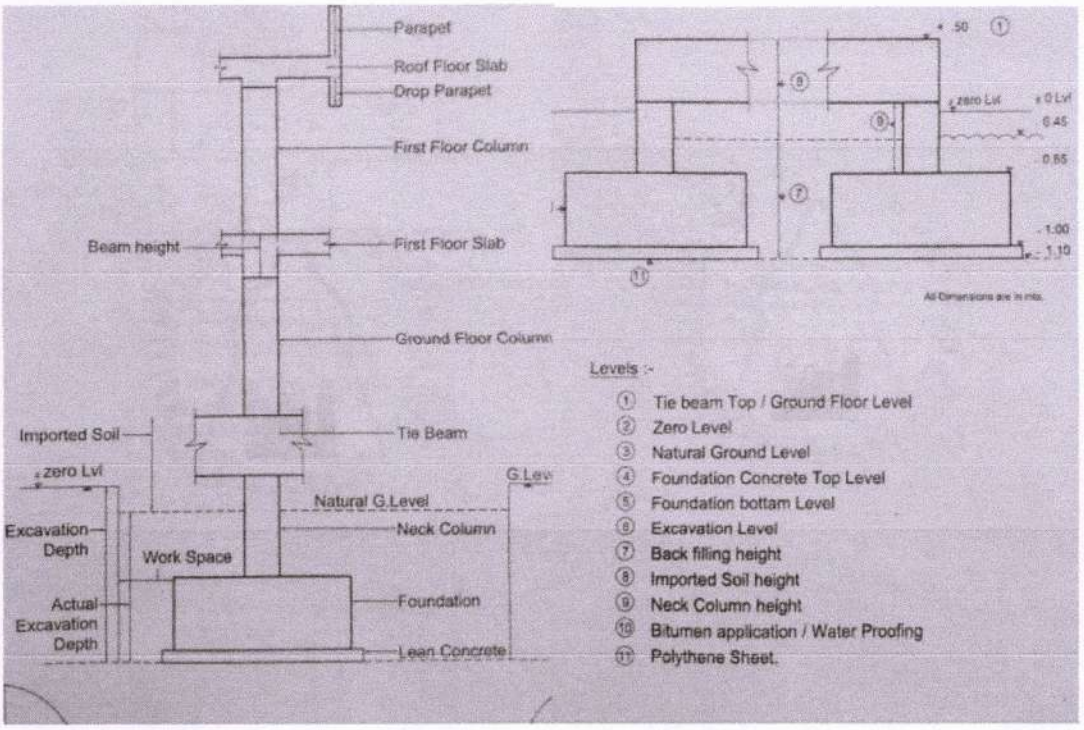
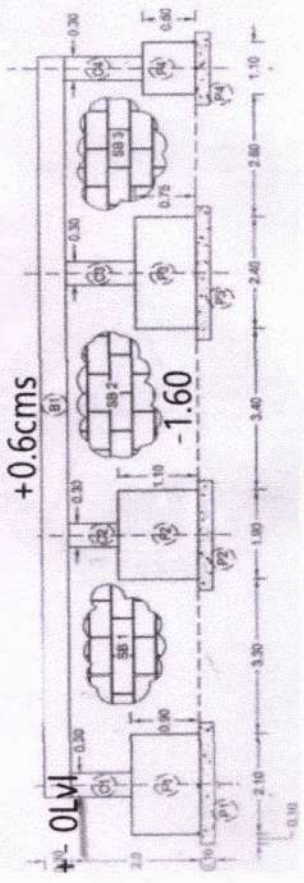
7. LEVELS





	LEVELS	
	Ground Floor or Interlock Lvl: 0lvl	
	Tie Beam Top Level: +0.60cms	
	Foundation Bottam Level: -1.60	
	FIND OUT	
1	Excavation Bottam Level	
2	Pcc bottam Level	
3	Pcc Top Level	
4	All Foundation Bottam Level	
5	Fdn F1 Top Level	
6	Fdn F2 Top Level	
7	Fdn F3 Top Level	
8	Fdn F4Top Level	
9	Neck Column NC1 Top Level	
10	Neck Column NC2 Top Level	
11	Neck Column NC3 Top Level	
12	Neck Column NC4 Top Level	
13	Tie Beam Bottam Level	
14	Solid Block Top Level	

Coordinator

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ONADVANCED QUANTITY SURVEYING

(02/05/2023 to 06/05/2023)

Sl. No.	NAME
1	AADITHYA KRISHNAN C
2	ABHIRAMY RAJ
3	AKASH P V
4	ANANDHU ASHOK K P
5	ANANJANA C
6	ANJALI M P
7	ANJANA C
8	ASHAYA RAMESH
9	ASWITHA GANGADHARAN
10	ATHIRA ARUN K
11	AYSHATH SAIFA
12	KRISHNA PRASAD S L
13	MUHAMMED HANNAN
14	MUHAMMED RUFAID M
15	NIKHIL SAI K
16	PRANAV A K
17	PRAYAG PRABHAKARAN
18	SACHIN SURENDRAN M
19	SHAMSHAD PV
20	SILNA M
21	SREEHARI K K

Coordinator

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ONADVANCED QUANTITY SURVEYING

ATTENDANCE SHEET (02/05/2023 to 06/05/2023)

Sl. No.	NAME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
1	AADITHYA KRISHNAN C	Ab	Ab			
2	ABHIRAMY RAJ					
3	AKASH P V	Ab	AR	AR	Ab	Ab
4	ANANDHU ASHOK K P					
5	ANANJANA C					
6	ANJALI M P					
7	ANJANA C					
8	ASHAYA RAMESH					
9	ASWITHA GANGADHARAN					
10	ATHIRA ARUN K					
11	AYSHATH SAIFA					
12	KRISHNA PRASAD S L					
13	MUHAMMED HANNAN				Ab	
14	MUHAMMED RUFAID M					
15	NIKHIL SAI K					
16	PRANAV A K					
17	PRAYAG PRABHAKARAN					
18	SACHIN SURENDRAN M					Ab
19	SHAMSHAD PV	Ab				Ab

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20	SILNA M					
21	SREEHARI K K					

Coordinator

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DEPARTMENT OF CIVIL ENGINNERING

Report on Advanced Quantity Surveying Workshop

Conducted by the Department of Civil Engineering

Date: 02/05/2023 - 06/05/2023

Venue: CE Seminar Hall,

Sree Narayana Guru College of Engineering & Technology

The Department of Civil Engineering at Sree Narayana Guru College of Engineering & Technology Payyanur organized a comprehensive 5-day hands-on training program on Advanced Quantity Surveying. The workshop was designed to equip participants with practical skills and knowledge in quantity surveying techniques applicable in real-world construction projects. The main objective of the workshop are to familiarize participants with advanced techniques in quantity surveying, to provide hands-on training in utilizing modern tools and software for quantity estimation, to enhance participants' understanding of cost management and budgeting in construction projects and to facilitate networking and collaboration among participants and industry experts. The training program spanned five days and included a mix of theoretical sessions, practical exercises, and interactive workshops. Each day focused on specific aspects of quantity surveying, ensuring a comprehensive understanding of the subject matter.

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Day 1: Fundamentals of Quantity Surveying

Introduction to quantity surveying principles and practices.

Measurement techniques and standards.

Overview of construction drawings and specifications.

Day 2: Advanced Measurement Techniques

Advanced measurement methods for various construction elements.

Practical exercises using measurement tools and software.

Day 3: Cost Estimation and Analysis

Principles of cost estimation.

Understanding of rate analysis and bill of quantities.

Practical session on preparing accurate cost estimates.

Day 4: Software Applications in Quantity Surveying

Introduction to software tools for quantity surveying.

Hands-on training in popular quantity surveying software.

Day 5: Case Studies and Project Presentations

Analysis of real-world case studies in quantity surveying.

Group presentations of project assignments.

Interactive session with industry experts.

The 5-day hands-on training program on Advanced Quantity Surveying was highly successful in achieving its objectives. Participants gained valuable insights into advanced quantity surveying techniques, modern tools, and software applications. The practical exercises and interactive sessions facilitated a deeper understanding of cost estimation, measurement techniques, and project management in construction.

The Department of Civil Engineering expresses gratitude to all participants and faculty members, who contributed to the success of the training program. We

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believe that the knowledge and skills acquired during the workshop will prove invaluable in the participants' professional careers and contribute to the advancement of the construction industry.

Co-Ordinator

HOD

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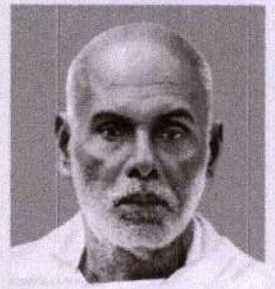

DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE OF PARTICIPATION

This is to certify that **AADITHYA KRISHNAN C** of SNGCET has attended the 5 day workshop on **Advanced Quantity Surveying** organized by the **Department of Civil Engineering, Sree Narayana Guru College of Engineering & Technology** held from **02-05-2023 to 06-05-2023**

Co-ordinator

Head of the Department

Principal

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY PAYYANUR

Dr. LEENA A. V.
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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

Nikhil Sai K.
S8 CE

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

	Excellent	Good	Fair	Poor
1. Overall how would you rate the training class?	☐	☐	☑	☐
2. How would you rate the trainer's communication and presentation skills	☐	☑	☐	☐
3. Were the interactive elements engaging and beneficial	☐	☑	☐	☐
4. Did you receive enough opportunity for questions and clarification during the session	☐	☑	☐	☐
5. Did this class meet your expectation	☐	☐	☑	☐
6. Were the hands-on activities beneficial in understanding concepts	☐	☑	☐	☐
7. Did the workshop offer practical strategies or tools that you can readily apply	☐	☐	☑	☐
8. Were the technical aspects during the workshop satisfactory	☐	☐	☑	☐
9. Rate the level of interaction between the facilitator and participants	☐	☐	☑	☐
10. Did the workshop covers emerging trend or advancements in the field	☐	☐	☑	☐

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Silna M.
S8 CE

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DEPARTMENT OF CIVIL ENGINEERING

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9. Rate the level of interaction between the facilitator and participants	☑	☐	☐	☐
10. Did the workshop covers emerging trend or advancements in the field	☑	☐	☐	☐

Leena

Dr. LEENA A. V.
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SREE NARAYANA GURU COLLEGE OF
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KANNUR

Sreekhari K.K.
S8 CE

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DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

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KANNUR

Krishna Prasad SL.
S8CE

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

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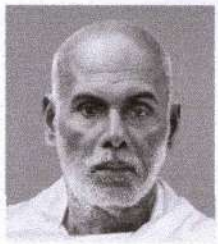
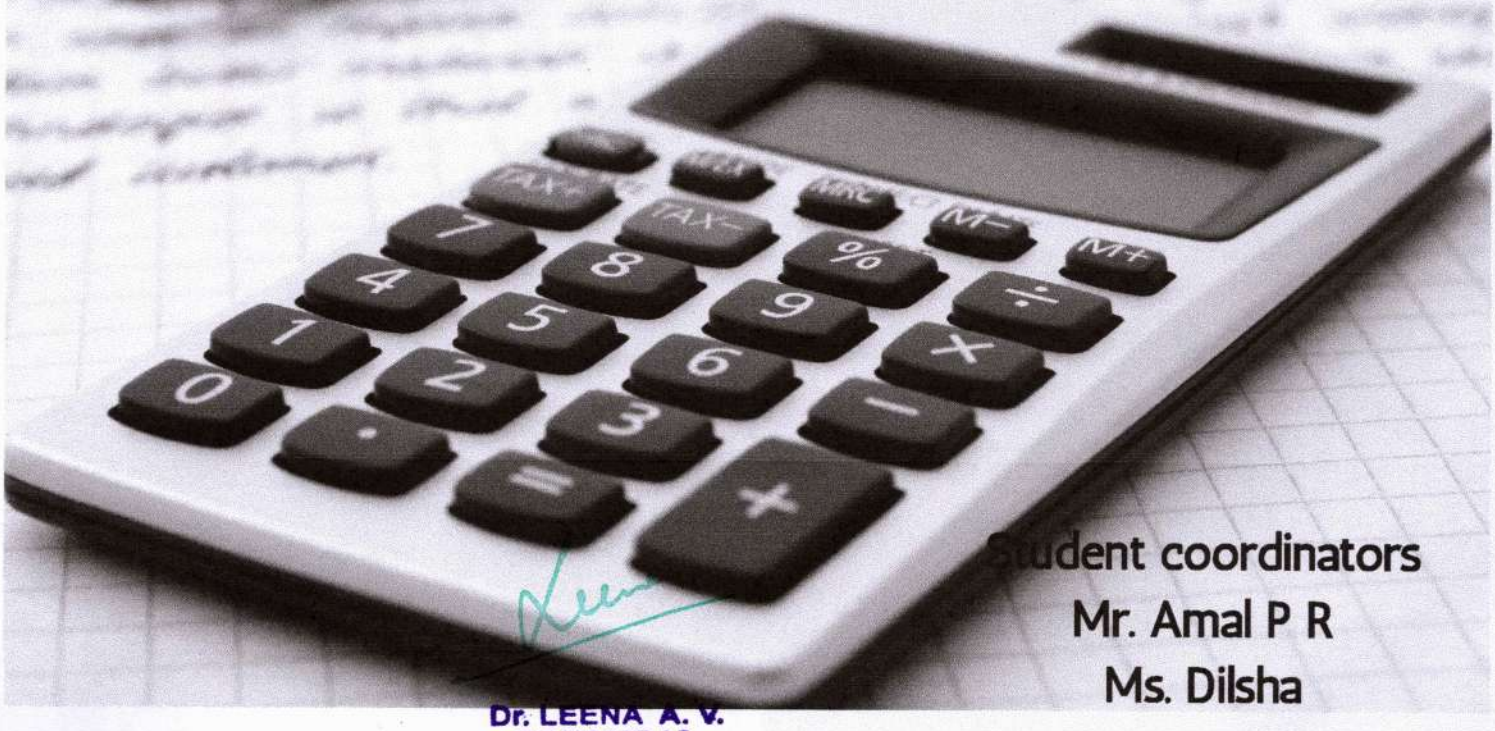


DEPARTMENT OF CIVIL ENGINEEERING

Presents

5 day Workshop on

COST ESTIMATION & VALUATION TECHNOLOGIES



Student coordinators
Mr. Amal P R
Ms. Dilsha

Dr. LEENA A. V.
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KANNUR

Faculty coordinators
Ms. Swathi P
Mr.Preamanand C

VENUE : CE SEMINAR HALL

04-04-2022 to 08-04-2022

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP

SCHEDULE

Day 1 – 04-04-2022	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Inauguration & Talk By **Mr. Preamanand C** **Assistant Professor SNGCET** TOPIC : Introduction to Quantity surveying & Fundamentals of QSV
Day2 – 05-04-2022	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Advanced Measurement Techniques
Day 3 – 06-04-2022	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Cost Estimation and Analysis
Day 4 – 07-04-2022	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Software Applications in Quantity Surveying & Case Studies and Project Presentations
Day -5 – 08-04-2022	FN- 9.00am to 12.00 pm AN – 1.00pm to 4.00pm	Expert talk by **Mr. Sudhi** **Senior Faculty of IQSS** TOPIC : Valuation Techniques & Closing Ceremony

Coordinator

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON ADVANCED QUANTITY SURVEYING

(04/04/2022 to 08/04/2022)

SYLLABUS

1. **GENERAL**
    a) Tender Documents
    b) Drawings
    c) Civil & Mep Dwgs
    d) Architectural Drawing
    e) Structural Drawing
    Column Layout, Foundation Layout, Tie beam Layout/Gf, Layout First Floor Frame Layout, Roof Frame, Layout Structural Details: Rein & Size
    f) Items Concrete
    g) Scope Of Works Civil Contractor
    h) Foundations
    i) Beams
2. **COST**
    a) Material Cost
    b) Unit Cost
    c) Labour Cost
    d) Project Cost
    e) Cost Variance
3. **FUNDAMENTALS OF QUANTITY SURVEYING**
4. **ADVANCED MEASUREMENT TECHNIQUES**
5. **COST ESTIMATION AND ANALYSIS**
6. **SOFTWARE APPLICATIONS IN QUANTITY SURVEYING**
7. **CASE STUDIES AND PROJECT PRESENTATIONS**
8. **COMPOUND WALL SEQUENCE**
    a. Excavation.
    b. Compaction
    c. Roadbase
    d. Compaction

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e. PCC

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g. Neck Columns

h. Solid blocks

i. Tie Beams

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Coordinator **HOD**

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON ADVANCED QUANTITY SURVEYING

PARTICIPANT LIST (04/04/2022 to 08/04/2022)

Sl. No.	NAME
1	ABHIYUKTHA P V
2	ADARSH S V
3	ADITHYAN D
4	AKASH ASHOK
5	AKSHAY KRISHNAN
6	AMAL P R
7	AMRITHA A V
8	ANAGHA K
9	ANJANA T
10	ANJIMA B P
11	ANUSREE V
12	ARJUN DEV
13	ARYA RAMESH
14	ASHMITH RAMESH
15	AYSHA NASREEN
16	AYSHA RIZWANA
17	DHANUSH C P
18	DILSHA
19	DRISYA P V
20	FATHIMA ABDUL KAREEM
21	FATHIMATHUL SANA
22	GOPIKA P V

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23	HIBA FAROOK AYAR
24	KAVYA MANOJ
25	KIRAN K
26	LAXMI RANJITH
27	M JUMANA HASEEN
28	MITHUNA V P
29	MOHAMMED NIHAD P V
30	MUHAMMED MUHSIN T V
31	NANDITHA BABU
32	PRANAV V PRAKASH
33	RAHUL P
34	REVATHI K
35	RIYAZE KHALID
36	SAFA AMEER
37	SAFIYATH A P V
38	SAFVAN HARIS
39	SANAGHA
40	SANIKA SUJITH
41	SHAFANA SHAFI
42	SHARFANA JAFAR
43	SHAZIN SHAN
44	SHIFANA ASHRAF
45	SHIKIL K K
46	SHIRIN SADDIQ
47	SREEMAI BAIJU
48	SREYA KRISHNA K V

Coordinator

HOD

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON ADVANCED QUANTITY SURVEYING

ATTENDANCE SHEET (04/04/2022 to 08/04/2022)

Sl. No.	NAME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
1	ABHIYUKTHA P V					
2	ADARSH S V					
3	ADITHYAN D					
4	AKASH ASHOK					
5	AKSHAY KRISHNAN	Ab.	Ab			
6	AMAL P R					
7	AMRITHA A V					
8	ANAGHA K					
9	ANJANA T			Ab.	Ab	
10	ANJIMA B P					
11	ANUSREE V					Ab.
12	ARJUN DEV	Ab	Ab			
13	ARYA RAMESH					
14	ASHMITH RAMESH					
15	AYSHA NASREEN					
16	AYSHA RIZWANA					
17	DHANUSH C P					
18	DILSHA					Ab.
19	DRISYA P V					Ab

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20	FATHIMA ABDUL KAREEM					
21	FATHIMATHUL SANA					Ab
22	GOPIKA P V					
23	HIBA FAROOK AYAR					
24	KAVYA MANOJ					Ab.
25	KIRAN K					
26	LAXMI RANJITH					
27	M JUMANA HASEEN					
28	MITHUNA V P					
29	MOHAMMED NIHAD P V					
30	MUHAMMED MUHSIN T V					
31	NANDITHA BABU					
32	PRANAV V PRAKASH					
33	RAHUL P					Ab.
34	REVATHI K	Ab				
35	RIYAZE KHALID					
36	SAFA AMEER				Ab.	
37	SAFIYATH A P V					
38	SAFVAN HARIS		Ab			
39	SANAGHA					
40	SANIKA SUJITH					
41	SHAFANA SHAFI			Ab		
42	SHARFANA JAFAR					
43	SHAZIN SHAN				Ab	
44	SHIFANA ASHRAF	Ab.				
45	SHIKIL K K					Ab.

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46	SHIRIN SADDIQ	Shiku	Shiku	Shiku	Shiku	Shiku
47	SREEMAI BAIJU	Ab	Ab			
48	SREYA KRISHNA K V			Ab.	Ab	

Coordinator

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINNERING

5-Day Hands-On Training on Cost Estimation & Valuation Technologies

Date: 04/04/2022 - 08/04/2022

Venue: Civil Seminar Hall, SNGCET Payyanur

The Department of Civil Engineering at SNGCET Payyanur conducted a comprehensive 5-day hands-on training program on Cost Estimation & Valuation Technologies. The primary objective of this program was to provide participants with practical knowledge and skills in advanced quantity surveying techniques that are essential for effective project management in the construction industry.

Program Highlights:

Day 1: Fundamentals of Quantity Surveying (04/04/2022)

The training commenced with an overview of quantity surveying principles and methodologies. Participants were introduced to measurement techniques and standards commonly used in the field. The session also covered an overview of construction drawings and specifications.

Day 2: Advanced Measurement Techniques (05/04/2022)

Participants delved into advanced measurement methods for various construction elements. Practical exercises were conducted using measurement tools and software to enhance understanding and proficiency in measurement techniques.

Day 3: Cost Estimation and Analysis (06/04/2022)

The focus shifted to cost estimation and analysis. Principles of cost estimation and budgeting in construction projects were discussed in detail. Participants learned about rate analysis, bill of

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quantities, and engaged in practical sessions to prepare accurate cost estimates.

Day 4: Software Applications in Quantity Surveying (07/04/2022)

An introduction to software tools relevant to quantity surveying, including AutoCAD and Excel, was provided. Participants received hands-on training in popular quantity surveying software, enabling them to utilize these tools effectively in their projects.

Day 5: Case Studies and Project Presentations (08/04/2022)

The final day featured the analysis of real-world case studies in quantity surveying. Participants worked in groups to analyze and present project assignments, incorporating the knowledge and skills acquired throughout the training program. An interactive session with industry experts provided valuable feedback and insights.

Ms. Swathi P and Mr. Premanand C (AP CE) efficiently coordinated the program, ensuring its smooth execution. Their dedication and expertise greatly contributed to the success of the training. Ms. Dilsha and Mr. Amal P R, student coordinators from S8 CE, played a pivotal role in organizing and managing various aspects of the program. Their enthusiasm and commitment were instrumental in creating a conducive learning environment

The 5-day hands-on training program on Cost Estimation & Valuation Technologies proved to be highly beneficial for all participants. They gained practical skills and knowledge essential for proficient quantity surveying and project management in the construction sector. The Department of Civil Engineering expresses gratitude to all faculty members, coordinators, and participants for their active involvement and contribution to the success of the program.

Co-Ordinator

HOD

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ENLIGHTENMENT THROUGH EDUCATION

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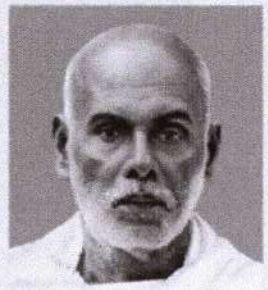

DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE OF PARTICIPATION

This is to certify that **ABHIYUKTHA P V** of SNGCET has attended the 5 day workshop on **COST ESTIMATION & VALUATION TECHNOLOGIES** organized by the **Department of Civil Engineering, Sree Narayana Guru College of Engineering & Technology** held from **04/04/2022 to 08/04/2022**

Co-ordinator

Dr. LEENA A. V.
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KANNUR

Head of the Department

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY PAYYANUR

Principal

ADARSH SV
S8 CE.

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

	Excellent	Good	Fair	Poor
1. Overall how would you rate the training class?	☑	☐	☐	☐
2. How would you rate the trainer's communication and presentation skills	☐	☑	☐	☐
3. Were the interactive elements engaging and beneficial	☑	☐	☐	☐
4. Did you receive enough opportunity for questions and clarification during the session	☐	☑	☐	☐
5. Did this class meet your expectation	☑	☐	☐	☐
6. Were the hands-on activities beneficial in understanding concepts	☐	☑	☐	☐
7. Did the workshop offer practical strategies or tools that you can readily apply	☑	☐	☐	☐
8. Were the technical aspects during the workshop satisfactory	☑	☑	☐	☐
9. Rate the level of interaction between the facilitator and participants	☑	☐	☐	☐
10. Did the workshop covers emerging trend or advancements in the field	☐	☑	☐	☐

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AKASH ASHOK
S8CE.

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DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

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AMAL P R
S8 CE.

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DEPARTMENT OF CIVIL ENGINEERING

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DRISYA PV

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

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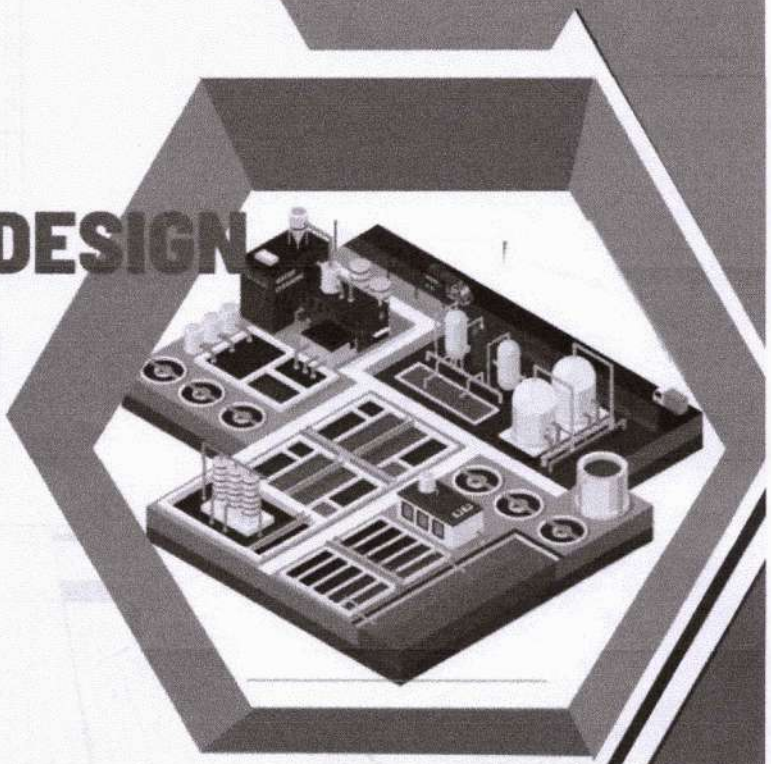
Online

WATER SYSTEM DESIGN WORKSHOP



5 DAY ONLINE TRAINING

06-12-21 TO 10-12-21

REGISTER NOW

FACULTY COCORDINATOR
MS.ATHIRA BALAKRISHNAN
MS SRUTHI DAS

STUDENT COCORDINATOR
ANAGHA K
GOKUL AMBILOTH

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON WATER SYSTEM DESIGN

SCHEDULE

DAY	TIME	TOPICS
Day 1 (06/12/2021)	9.00 am to 12 pm	**Inaugural session** & Expert talk by **Ms. Athira Balakrishnan** Assistant Professor SNGCET Topic: Environmental Impact Assessment
	1.00 pm to 4.00 pm	Expert talk by **Ms. Athira Balakrishnan** Assistant Professor SNGCET Topic: Planning Principles Population and Demand Rates Demand Calculations
Day 2 (07/12/2021)	9.00 am to 12 pm	Expert talk by **Mrs. Saritha Sasindran** Assistant Professor SNGCET Topic: Water Treatment Plants, Pumping Stations
	1.00 pm to 4.00 pm	Expert talk by **Mrs. Saritha Sasindran** Assistant Professor SNGCET Topic: System Component - Transmission Mains And Distribution Systems
Day 3	9.00 am to 12 pm	Expert talk by **Mrs. Saritha Sasindran** Assistant Professor SNGCET Topic : Design Hydraulic Modelling and Analysis - Network Design Economic

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(08/12/2021)		Calculations
	1.00 pm to 4.00 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic : Water Hammer Analysis and Pipe Selection Longitudinal Section, Valves and Appurtenances
Day 4 (09/12/2021)	9.00 am to 12 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic : Water System Component
	1.00 pm to 4.00 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic : Estimation and Rate
Day 5 (10/12/2021)	9.00 am to 12 pm	Expert talk by **Mrs. Shilpa Valsakumar** Assistant Professor SNGCET Topic : Construction Management - Site Mobilization and Laydown area Construction Activities
	1.00 pm to 4.00 pm	Expert talk by **Mrs. Shilpa Valsakumar** Assistant Professor SNGCET Topic : Valuation and Bill Payment - Quality Control

Coordinator

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON WATER SYSTEM DESIGN

(11/05/2020 to 16/05/2020)

SYLLABUS

DAY	TOPICS
Day 1	Water System – Introduction – Environmental Impact Assessment - Planning Principles Population and Demand Rates Demand Calculations
Day 2	System Component - Water Treatment Plants, Pumping Stations, Transmission Mains and Distribution Systems
Day 3	Design Hydraulic Modelling and Analysis - Network Design Economic Calculations Water Hammer Analysis and Pipe Selection Longitudinal Section, Valves and Appurtenances
Day 4	Water System Component - Estimation and Rate
Day 5	Construction Management - Site Mobilization and Laydown area Construction Activities - Valuation and Bill Payment - Quality Control

Coordinator

HOD

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON WATER SYSTEM DESIGN

(06/12/2021 to 10/12/2021)

LIST OF PARTICIPANTS

SL. NO.	NAME
1	ABDHUL MUSAVVIR KASIM
2	ADARSH S V
3	AISHWARYA RASH
4	AISWARYA P P
5	AJEEBA
6	AKSHATHA KRISHNAN
7	AMEGH P
8	AMITHA SASIDHARAN
9	ANAGHA K
10	ANAGHA P
11	ANAGHA SREEVALSAN U M
12	ANAGHA T
13	ANJALI K
14	ANJANA T
15	ANULAKSHMI P V
16	APARNA B PREM
17	APSARA E K
18	AYSHA RIZWANA A K
19	DILSHA M E
20	GOKUL AMBILOTH
21	GOPIKA P V
22	HARITHA C V
23	HRISHIKA M
24	IRINGAKARAN RHISHI SASIDHARAN
25	KEERTHI RAJAN
26	MAHDIYA K V
27	MALAVIKA JAYAKUMAR
28	MANEESHA K V
29	MUHAMMED SINAN M P
30	MUHAMMED WASEEM ALI
31	MUHSIN MUTTOON
32	RAHID P V
33	SAFEERA K
34	SAYOOJYA SADANANDHAN P
35	SHARFANA JAFAR

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36	SIDHIN K
37	SNEHA P V
38	SREERAG E N
39	SREERAG M
40	FATHIMA K K

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON WATER SYSTEM DESIGN

ATTENDANCE SHEET (06/12/2021 to 10/12/2021)

Sl. No.	NAME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
1	ABDHUL MUSAVVIR KASIM	P	P	P	P	P
2	ADARSH S V	P	A	P	P	P
3	AISHWARYA RASH	P	P	P	P	P
4	AISWARYA P P	A	P	P	P	A
5	AJEEBA	P	P	P	P	P
6	AKSHATHA KRISHNAN	P	A	P	P	P
7	AMEGH P	P	P	P	P	P
8	AMITHA SASIDHARAN	P	P	P	P	P
9	ANAGHA K	P	P	P	P	P
10	ANAGHA P	P	P	P	A	P
11	ANAGHA SREEVALSAN U M	P	P	A	P	P
12	ANAGHA T	P	P	P	P	P
13	ANJALI K	P	P	P	P	P
14	ANJANA T	P	P	A	P	P
15	ANULAKSHMI P V	P	P	P	P	P
16	APARNA B PREM	P	P	P	P	P
17	APSARA E K	P	P	A	P	P
18	AYSHA RIZWANA A K	P	P	P	P	P
19	DILSHA M E	P	A	P	A	P

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20	GOKUL AMBILOTH	P	P	P	P	P
21	GOPIKA P V	P	P	P	P	P
22	HARITHA C V	P	A	P	P	P
23	HRISHIKA M	P	P	P	P	P
24	IRINGAKARAN RHISHI SASIDHARAN	P	P	A	A	P
25	KEERTHI RAJAN	P	P	P	P	P
26	MAHDIYA K V	P	A	P	P	P
27	MALAVIKA JAYAKUMAR	P	P	P	P	A
28	MANEESHA K V	P	P	P	P	P
29	MUHAMMED SINAN M P	P	P	P	P	P
30	MUHAMMED WASEEM ALI	P	P	P	P	P
31	MUHSIN MUTTOON	P	P	P	P	P
32	RAHID P V	P	P	P	P	P
33	SAFEERA K	P	A	P	P	P
34	SAYOOJYA SADANANDHAN P	P	P	P	P	P
35	SHARFANA JAFAR	P	P	A	P	P
36	SIDHIN K	P	P	P	P	A
37	SNEHA P V	P	P	P	A	P
38	SREERAG E N	P	A	P	A	P
39	SREERAG M	P	P	A	P	P
40	FATHIMA K K	P	P	P	P	P

Coordinator

HOD

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DEPARTMENT OF CIVIL ENGINNERING

Report on Workshop on Water System Design

Date: 06/12/2021 - 10/12/2021

Venue: Online

The Department of Civil Engineering at SNGCET Payyanur organized a comprehensive 5-day online workshop on Water System Design. This workshop aimed to provide participants with insights into the design and management of water systems, focusing on various aspects such as supply, treatment, distribution, and wastewater management.

The workshop commenced with an overview of water systems, including their significance, components, and challenges. Participants gained insights into the importance of sustainable water management practices. Sessions focused on water supply sources, treatment techniques, and quality assessment. Participants learned about various treatment processes and their applications in ensuring safe and potable water supply. The workshop covered the design and analysis of water distribution systems. Participants explored hydraulic principles, network analysis, and optimization techniques for efficient water distribution. Sessions on wastewater management addressed collection, treatment, and disposal methods. Participants learned about wastewater treatment processes, regulatory requirements, and sustainable wastewater management practices.

Ms. Athira Balakrishnan and Ms. Sruthidas (AP CE) efficiently coordinated the workshop, ensuring seamless execution and engagement of participants. Their expertise and guidance were instrumental in delivering an enriching learning experience. Ms. Anagha K and Mr. Gokul Ambiloth, student coordinators from S8 CE, played a crucial role in organizing and facilitating various aspects of the workshop. Their dedication and teamwork contributed significantly to the success of the online event.

The 5-day online workshop on Water System Design provided participants with valuable insights

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into the design, operation, and management of water systems. The Department of Civil Engineering extends gratitude to all faculty members, coordinators, and participants for their active participation and contribution to the success of the workshop, fostering learning and collaboration in the field of civil engineering.

Coordinator

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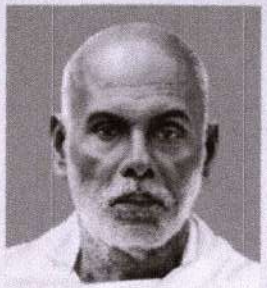

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CERTIFICATE OF PARTICIPATION

This is to certify that **ABDHUL MUSAVVIR KASIM** of SNGCET has attended the 5 day online workshop on **Water System Design** organized by the **Department of Civil Engineering, Sree Narayana Guru College of Engineering & Technology** held from **06/12/2021 to 10/12/2021**

Co-ordinator

Head of the Department

Principal

Dr. LEENA A. V.
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WORKSHOP ON **WATER SYSTEM DESIGN** (06/12/2021 to 10/12/2021) - FEEDBACK FORM

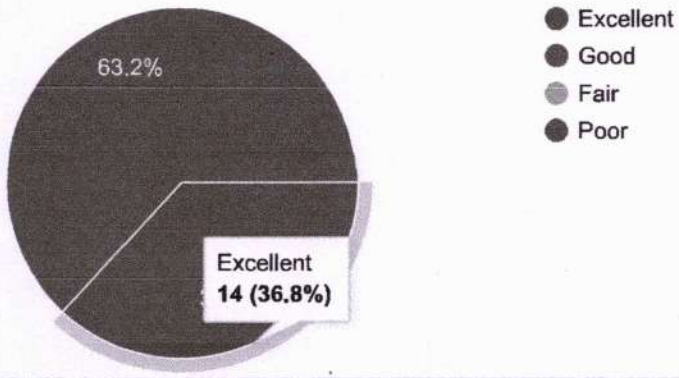
38 responses

Publish analytics

Overall how would you rate the training class?

Copy

38 responses



How would you rate the trainer's communication and presentation skills

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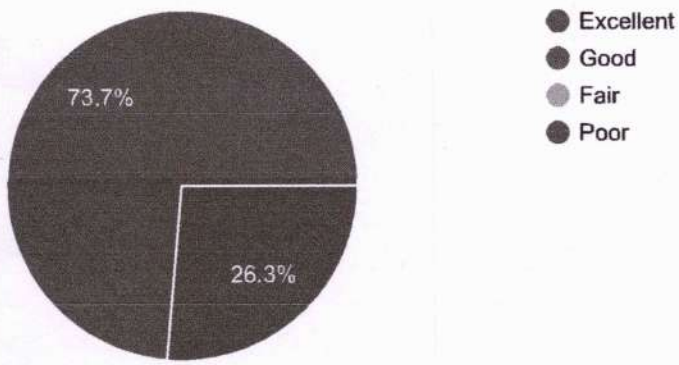

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Were the interactive elements engaging and beneficial

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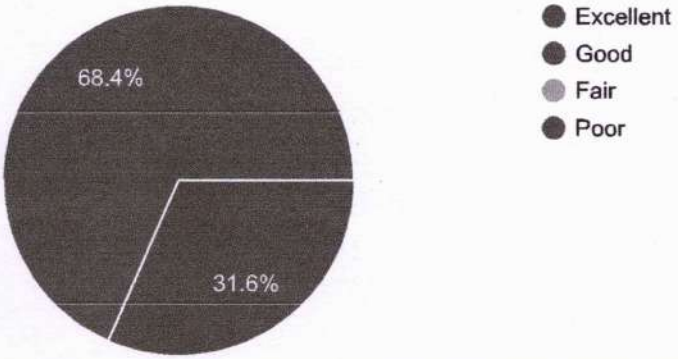

Did you receive enough opportunity for questions and clarification during the session

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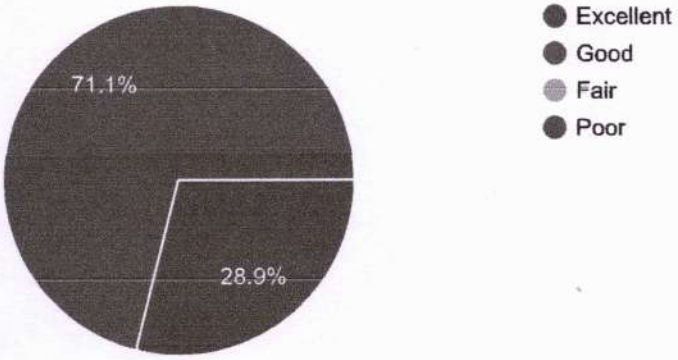
38 responses



Were the technical aspects during the workshop satisfactory

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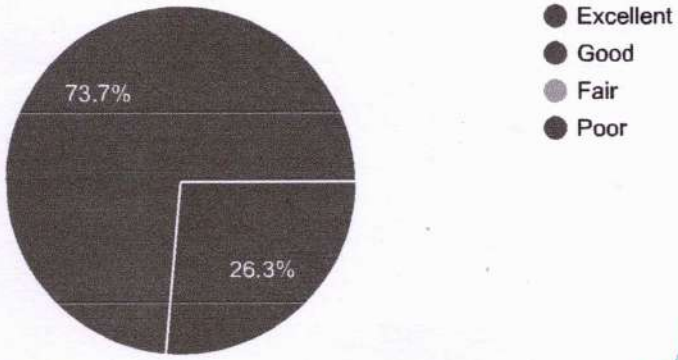

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Rate the level of interaction between the facilitator and participants

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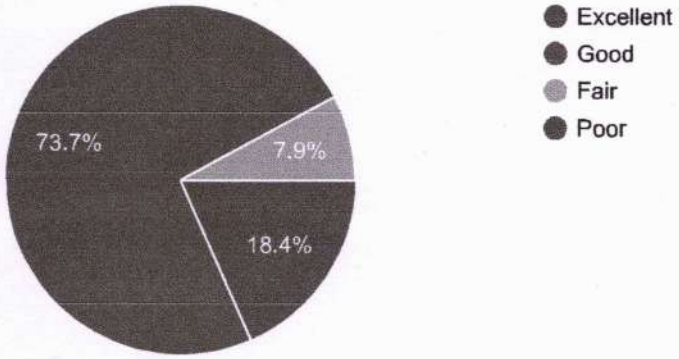

Did the workshop covers emerging trend or advancements in the field

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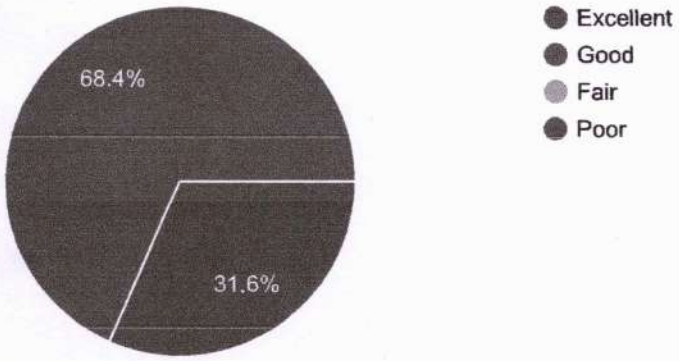

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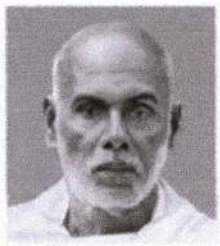

DEPARTMENT OF CIVIL ENGINEEERING

Presents

6 DAY ONLINE TRAINING ON

FUNDAMENTALS OF WATER DISTRIBUTION SYSTEM & DESIGN

JOIN ON GOOGLE MEET

Student coordinators

Mr. Arjun M V
Ms. Krishna Veni K

11/05/2020 to 16/05/2020

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Faculty coordinators

Mrs. Shilpa Valsakumar
Mr. Abhishek C V

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON

FUNDAMENTALS OF WATER DISTRIBUTION SYSTEM & DESIGN

(11/05/2020 to 16/05/2020)

SCHEDULE

Day 1: Introduction to Hydronic Systems

FN – 9.00am to 12.00pm

Session 1: Overview of Hydronic Systems

Session 2: Components of Closed Hydronic Systems

AN – 1.00pm to 4.00pm

Session 3: Components of Open Hydronic Systems

Session 4: Q&A and Discussion

Day 2: Basics of Piping System Design

FN – 9.00am to 12.00pm

Session 1: Introduction to Piping System Design

Session 2: Basic Concepts and Principles

Session 3: Types of Pipes Used in Hydronic Systems

AN – 1.00pm to 4.00pm

Session 4: Pipe Sizing and Selection

Session 5: Q&A and Discussion

Day 3: Centrifugal Pumps Operation and Selection

FN – 9.00am to 12.00pm

Session 1: Principles of Centrifugal Pumps Operation

Session 2: Pump Characteristics and Performance Curves

AN – 1.00pm to 4.00pm

Session 3: Matching Pumps to Systems

Session 4: Pump Selection Criteria and Considerations

Session 5: Q&A and Discussion

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Day 4: Terminal Unit Control and Optimization

FN – 9.00am to 12.00pm

Session 1: Introduction to Terminal Unit Control

Session 2: Understanding Control Variables

AN – 1.00pm to 4.00pm

Session 3: Control Strategies and Optimization Techniques

Session 4: Case Studies and Examples

Session 5: Q&A and Discussion

Day 5: Water Chiller Operation and Efficiency

FN – 9.00am to 12.00pm

Session 1: Basics of Water Chillers and Chiller Plants

Session 2: Chiller Efficiency and Energy Optimization

AN – 1.00pm to 4.00pm

Session 3: Maintenance Strategies for Chiller Systems

Session 4: Case Studies on Chiller Optimization

Session 5: Q&A and Discussion

Day 6: Practical Applications and Review

FN – 9.00am to 12.00pm

Session 1: Practical Demonstration: Designing a Hydronic System

Session 2: Group Presentations: Case Study Analysis

AN – 1.00pm to 4.00pm

Session 3: Review of Key Concepts and Learning Outcomes

Session 4: Participant Feedback and Suggestions

Session 5: Closing Ceremony

Session Handlers :

1. **Dr. Leena A V – Associate Professor SNGCET**
2. **Dr. Susan Abraham - Associate Professor SNGCET**
3. **Mrs. Saritha Sasindran – Assistant Professor SNGCET**
4. **Mrs. Shilpa Valsakumar - Assistant Professor SNGCET**

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Coordinator

HOD

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON

FUNDAMENTALS OF WATER DISTRIBUTION SYSTEM & DESIGN

(11/05/2020 to 16/05/2020)

SYLLABUS

Water System Design Components

Introductory concepts, basic system components, heat transfer in hydronic systems and load systems.

Piping System Design

Basic considerations, design philosophy, sizing piping, and flow rate measurement.

Pipe Materials and Fittings

Pipe materials, corrosion, valves and fittings, backflow-prevention devices, and pipe selection.

Centrifugal Pumps

Types of pumps, pump selection and system design considerations.

Terminal Unit Performance and Control

Types of terminals, performance and control, system control characteristics, and system control configurations.

Expansion Tanks and Air Elimination

Open and closed water systems, hydronic accessories, and sizing expansion tanks.

Piping System Development

Piping system design, direct return analysis, primary-secondary analysis, types of pumps and valves, primary-secondary application study, antifreeze solutions for low temperature applications, and pumping design factors.

Matching Pumps to Systems

Matching the pump to the system, parallel pumping, series pumping, standby pumps, trimming pump impellers, two-speed pumping, variable speed pumping and source distribution pumping.

Water Chillers and Load Control

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Basic water chiller components, refrigeration cycle, heat transfer chiller, refrigeration power, chiller types and control, chiller piping arrangements, chiller energy performance and thermal storage.

Design Of Structures

Design parameters

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON WATER SYSTEM DESIGN

(11/05/2020 to 16/05/2020)

LIST OF PARTICIPANTS

SL. NO.	NAME
1	ABIN DHAMODHAR
2	ADARSH B NAIR
3	AKHIL SURENDRAN
4	AMRITHA P
5	ANASWARA HAREENDRAN
6	ANGAJA PRAKASH
7	ANJALI V
8	ANOJA M
9	ARJUN M V
10	ASHIK K V
11	ASHIQ A K
12	DRISHYA K P
13	FATHIMA ABDHUL KAREEM
14	JITHIN KUMAR K P
15	KEERTHANA UTHAMAN
16	K NISHANA
17	KRISHNA R
18	KRISHNAVENI K
19	MIRSHAD E M
20	MUHAMMED SHAZ P
21	NADA NAZAR OVINAKATH
22	NANMA JAYARAJ
23	NASHATH JALEEL
24	NAYANA RAGHUNATH
25	NEERAJA S
26	NIKESH K
27	SREENATH PRAKASH C
28	SREE PARVATHI S
29	SUHAIRA PONNA VALAPPIL
30	SWANAM C
31	THEJAS P K
32	WASEEM ABDHUL WAHAM
33	ANURAGH M V
34	ANURANJ V K
35	AMAL RAJ E N

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36	HARIKRISHNA SATHYARAJ
37	M P M OMER RIZVI KURIKKAL
38	VISHNU VIMAL
39	ARJUN BABU M
40	K P RAMEZ
41	PRANAV K K

Coordinator

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WORKSHOP ATTENDANCE SHEET(11/05/2020 to 16/05/2020)

Sl. No.	NAME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6
1	ABIN DHAMODHAR	P	P	P	P	P	P
2	ADARSH B NAIR	P	A	P	P	P	P
3	AKHIL SURENDRAN	P	P	P	P	P	P
4	AMRITHA P	P	P	P	P	P	P
5	ANASWARA HAREENDRAN	P	P	P	P	P	P
6	ANGAJA PRAKASH	P	A	P	P	P	P
7	ANJALI V	P	P	P	P	P	P
8	ANOJA M	P	P	P	P	P	P
9	ARJUN M V	P	P	P	P	P	P
10	ASHIK K V	P	P	P	A	P	P
11	ASHIQ A K	P	P	P	P	P	P
12	DRISHYA K P	P	P	P	P	P	P
13	FATHIMA ABDHUL KAREEM	P	P	P	P	P	P
14	JITHIN KUMAR K P	P	P	A	P	P	P
15	KEERTHANA UTHAMAN	P	P	P	P	P	P
16	K NISHANA	P	P	P	P	P	P
17	KRISHNA R	P	P	P	P	P	P
18	KRISHNAVENI K	P	P	P	P	P	P
19	MIRSHAD E M	P	A	P	A	P	P
20	MUHAMMED SHAZ P	P	P	P	P	P	P

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21	NADA NAZAR OVINAKATH	P	P	P	P	P	P
22	NANMA JAYARAJ	P	A	P	P	P	P
23	NASHATH JALEEL	P	P	P	P	P	P
24	NAYANA RAGHUNATH	P	P	P	A	P	P
25	NEERAJA S	P	P	P	P	P	P
26	NIKESH K	P	P	P	P	P	P
27	SREENATH PRAKASH C	P	P	P	P	P	P
28	SREE PARVATHI S	P	P	P	P	P	P
29	SUHAIRA PONNA VALAPPIL	P	P	P	P	P	P
30	SWANAM C	P	P	P	P	P	P
31	THEJAS P K	P	P	P	P	P	P
32	WASEEM ABDHUL WAHAM	P	P	P	P	P	P
33	ANURAGH M V	P	A	P	P	P	P
34	ANURANJ V K	P	P	P	P	P	P
35	AMAL RAJ E N	P	P	P	P	P	P
36	HARIKRISHNA SATHYARAJ	P	P	P	P	A	P
37	M P M OMER RIZVI KURIKKAL	P	P	P	A	P	P
38	VISHNU VIMAL	P	P	P	A	P	P
39	ARJUN BABU M	P	P	P	P	P	P
40	K P RAMEZ	P	P	P	P	P	P
41	PRANAV K K	P	P	P	P	P	P

Coordinator **HOD**

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DEPARTMENT OF CIVIL ENGINNERING

Report on Workshop on Fundamentals of Water Distribution System & Design

Date: 11/05/2020 to 16/05/2020

Venue: Online mode / Google Meet

The Department of Civil Engineering at Sree Narayana Guru College of Engineering & Technology organized a comprehensive six-day online workshop on the "Fundamentals of Water Distribution System & Design." The workshop, conducted from May 11, 2020, to May 16, 2020, aimed to equip participants with essential knowledge and skills related to water distribution systems and their design principles.The workshop was efficiently coordinated by student coordinators Arjun M V and Krishna Veni K, along with faculty coordinators Mrs. Shilpa Valsakumar and Mr. Abhishek C V. Their dedication and guidance ensured the smooth execution of the workshop.The workshop covered a comprehensive syllabus focusing on essential aspects of water distribution systems and design principles. Participants delved into the following topics:

The components of closed and open hydronic systems.

Basic concepts of piping system design.

Different types of pipes used in hydronic systems.

Operation principles of centrifugal pumps.

Matching pumps to systems effectively.

Variables involved in terminal unit control.

Optimization techniques for water chiller operation.

Throughout the six days, participants engaged in interactive sessions, lectures, and practical demonstrations facilitated by experienced instructors. The workshop adopted a blend of theoretical knowledge and practical applications, ensuring a holistic learning experience.

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The "Fundamentals of Water Distribution System & Design" workshop provided an invaluable platform for participants to deepen their understanding of water distribution systems and design principles. Through collaborative efforts and dedicated coordination, the workshop successfully equipped participants with essential skills essential for their academic and professional endeavors. The Department of Civil Engineering at Sree Narayana Guru College of Engineering & Technology continues to uphold its commitment to fostering excellence in engineering education through such initiatives

Coordinator

HOD

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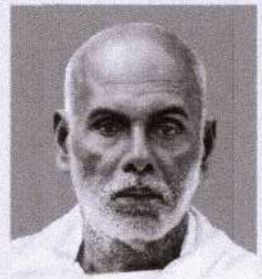

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CERTIFICATE OF PARTICIPATION

This is to certify that **AKHIL SURENDRAN** of **SNGCET** has attended the six day online workshop on **Fundamentals of Water Distribution System & Design** organized by the **Department of Civil Engineering, Sree Narayana Guru College of Engineering & Technology** held from **11/05/2020 to 16/05/2020**

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PAYYANUR

Mrs. Shilpa Valsakumar
Co-ordinator

Dr. Susan Abraham
Head of the Department

Dr. V K Janardanan
Principal

FUNDAMENTALS OF WATER DISTRIBUTION SYSTEM & DESIGN

WORKSHOP (11/05/2020 to 16/05/2020) - FEEDBACK FORM

38 responses

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Overall how would you rate the training class?

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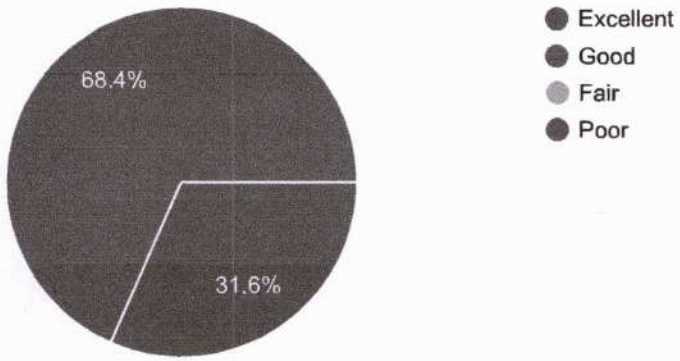

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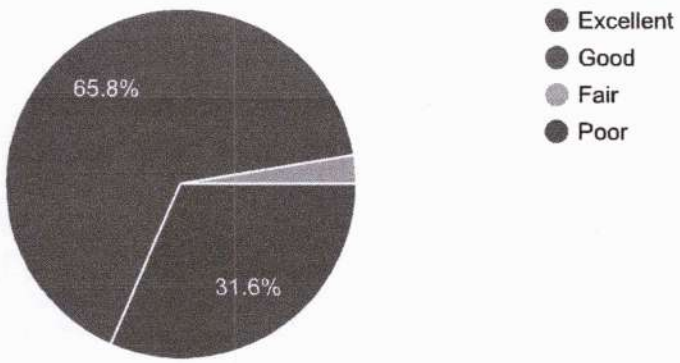

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Were the interactive elements engaging and beneficial

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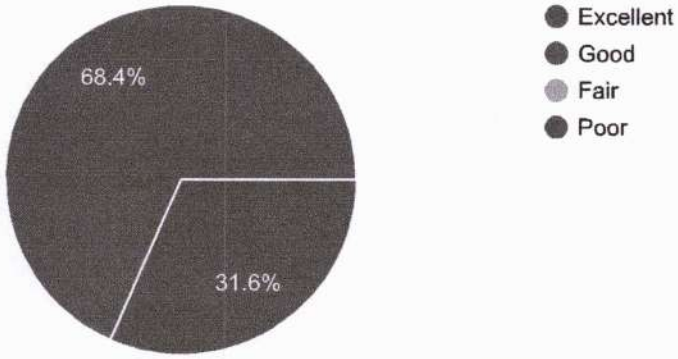

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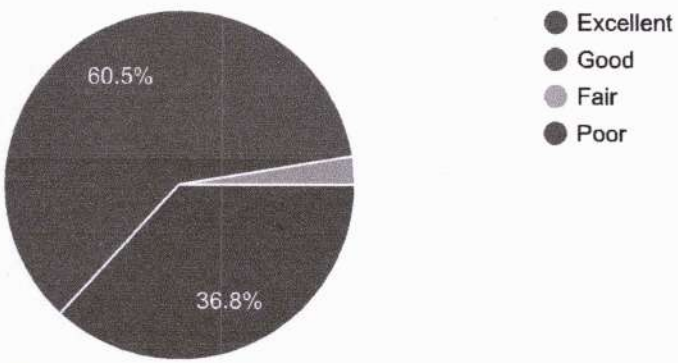

Did this class meet your expectation

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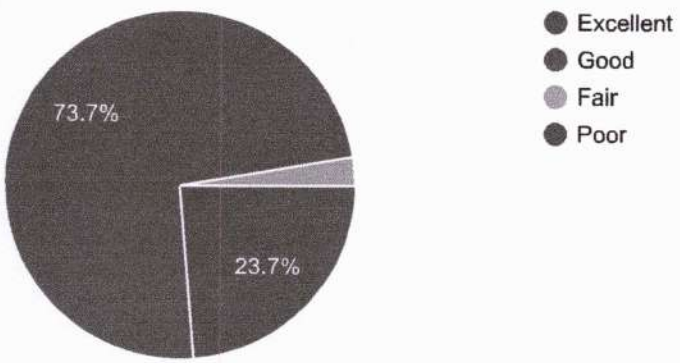

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Were the technical aspects during the workshop satisfactory

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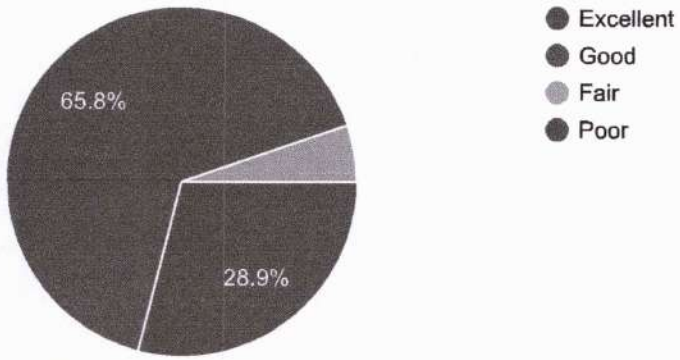

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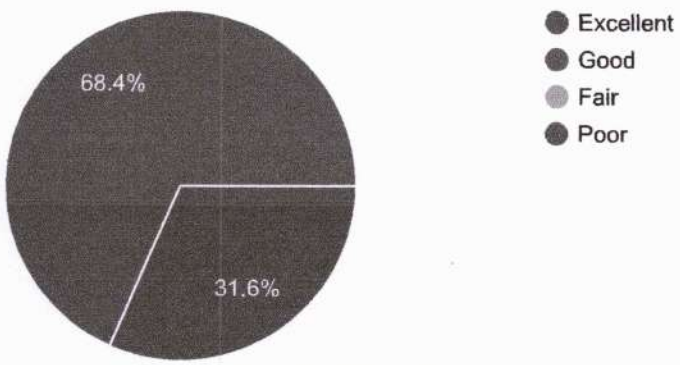

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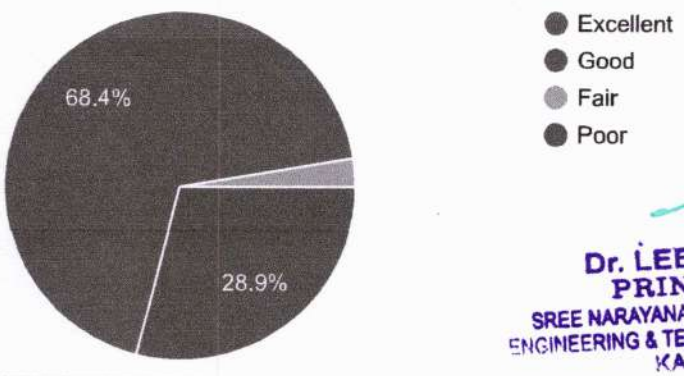

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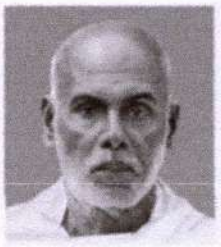

DEPARTMENT OF CIVIL ENGINEEERING

Presents

5 DAY HANDS ON TRAINING ON

ADVANCED DESIGN TECHNIQUES

Faculty coordinators

Mr.Akhil v
Mr. Abhishek C V

Student coordinators

Ms. Jinsha C P
Ms. Athira K V

Dr. LEENA A. V.
PRINCIPAL
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KANNUR

Venue: CE Seminar Hall

15-04-2019 to 19-04-2019

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DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON ADVANCED DESIGN TECHNIQUES

SCHEDULE

DAY	TIME	TOPICS
Day 1 (15-04-2019)	9.00 am to 12 pm	**Inaugural session** & Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic: Environmental Impact Assessment
	1.00 pm to 4.00 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic: Planning Principles Population and Demand Rates Demand Calculations
Day 2 (16-04-2019)	9.00 am to 12 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic: Water Treatment Plants, Pumping Stations
	1.00 pm to 4.00 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic: System Component - Transmission Mains And Distribution Systems
Day 3	9.00 am to 12 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic : Design Hydraulic Modelling and Analysis - Network Design Economic

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(17-04-2019)		Calculations
	1.00 pm to 4.00 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic : Water Hammer Analysis and Pipe Selection Longitudinal Section, Valves and Appurtenances
Day 4 (18-04-2019)	9.00 am to 12 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic : Water System Component
	1.00 pm to 4.00 pm	Expert talk by **Dr. Leena A V** Assistant Professor SNGCET Topic : Estimation and Rate
Day 5 (19-04-2019)	9.00 am to 12 pm	Expert talk by **Mrs. Shilpa Valsakumar** Assistant Professor SNGCET Topic : Construction Management - Site Mobilization and Laydown area Construction Activities
	1.00 pm to 4.00 pm	Expert talk by **Mrs. Shilpa Valsakumar** Assistant Professor SNGCET Topic : Valuation and Bill Payment - Quality Control

Coordinator

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF
ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

HOD

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

WORKSHOP ON ADVANCED DESIGN TECHNIQUES

SYLLABUS

DAY	TOPICS
Day 1	Introduction – Environmental Impact Assessment - Planning Principles Population and Demand Rates Demand Calculations
Day 2	Water Treatment Plants, Pumping Stations, Transmission Mains and Distribution Systems
Day 3	Design Hydraulic Modelling and Analysis - Network Design Economic Calculations Water Hammer Analysis and Pipe Selection Longitudinal Section, Valves and Appurtenances
Day 4	Water System Component - Estimation and Rate
Day 5	Site Mobilization and Laydown area Construction Activities - Valuation and Bill Payment - Quality Control

Coordinator **HOD**

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DEPARTMENT OF CIVIL ENGINEERING

LIST OF PARTICIPANTS

Sl. No.	NAME
1	AISWARYA JAYAKUMAR
2	AKSHAY C P
3	AMAL RAJ E N
4	ANJANA K
5	ANUSHA M
6	ANUSREE K
7	ANUSREE M
8	ANUSREE K K
9	ARJUN BABU M
10	ATHIRA K V
11	ATHIRA KRISHNAN K P
12	AYUSHRAJ P P
13	DRISHYA K
14	FARHANA SHERIN K
15	FATHIMA ABDHULLA KUNHI
16	GOPIKA G K
17	HARIKRISHNA SATHYARAJ
18	JINSHA C P
19	JINSHARAJ K V
20	JOYSON MATHEW

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21	K P RAMEZ
22	KEERTHANA N
23	M P M OMER RIZVI KURIKKAL
24	NIHITHA LOHITHAKSHAN K
25	NILUFAR FATHIMA
26	NITHIN T V
27	PRANAV K K
28	PRASHOB KRISHNAN C
29	RAZMIYATH MOHAMMED RAFI
30	SAHADA V P
31	SAHLA ABOOBACKER
32	SAHLA C A
33	SARATH P P
34	SHIFA AMEER
35	SNEHA P V
36	SREYA JAYARAJAN M K
37	SUDHINA RAJ K
38	VARNA A
39	VIDYA BALAKRISHNAN K P
40	VISHNU VIMAL

Coordinator

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DEPARTMENT OF CIVIL ENGINEERING

ATTENDANCE SHEET

Sl. No.	NAME	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
1	AISWARYA JAYAKUMAR					
2	AKSHAY C P					
3	AMAL RAJ E N					
4	ANJANA K					
5	ANUSHA M					
6	ANUSREE K					
7	ANUSREE M					
8	ANUSREE K K					
9	ARJUN BABU M					
10	ATHIRA K V					
11	ATHIRA KRISHNAN K P					
12	AYUSHRAJ P P					Ab
13	DRISHYA K					
14	FARHANA SHERIN K					
15	FATHIMA ABDHULLA KUNHI					
16	GOPIKA G K					
17	HARIKRISHNA SATHYARAJ					Ab
18	JINSHA C P					
19	JINSHARAJ K V	Ab	Ab			
20	JOYSON MATHEW				Ab	Ab

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21	K P RAMEZ	KP	KP	KP	KP	Ab
22	KEERTHANA N	Keerth	Keerth	Keerth	Ab	Keerth
23	M P M OMER RIZVI KURIKKAL	MP	MP	MP	MP	MP
24	NIHITHA LOHITHAKSHAN K	Nith	Nith	Nith	Nith	Nith
25	NILUFAR FATHIMA	Ab	Nilu	Nilu	Nilu	Nilu
26	NITHIN T V	NH	NH	NH	Ab	NH
27	PRANAV K K	PK	PK	PK	PK	PK
28	PRASHOB KRISHNAN C	Ab	Pra	Pra	Pra	Ab
29	RAZMIYATH MOHAMMED RAFI	Razm	Ab	Razm	Razm	Razm
30	SAHADA V P	aSh	aSh	aSh	aSh	aSh
31	SAHLA ABOOBACKER	Sahla	Sahla	Sahla	Ab	Ab
32	SAHLA C A	SaHA	SaHA	SaHA	SaHA	SaHA
33	SARATH P P	Sarath	Sarath	Sarath	Sarath	Sarath
34	SHIFA AMEER	Shifa	Ab	Shifa	Shifa	Shifa
35	SNEHA P V	Sneha	Sneha	Sneha	Sneha	Sneha
36	SREYA JAYARAJAN M K	Sreya	Sreya	Sreya	Sreya	Ab
37	SUDHINA RAJ K	Sudhi	Ab	Sudhi	Sudhi	Ab
38	VARNA A	Varna	Varna	Varna	Varna	Varna
39	VIDYA BALAKRISHNAN K P	Vidya	Vidya	Vidya	Ab	Vidya
40	VISHNU VIMAL	Vish	Vish	Vish	Vish	Vish

Coordinator

HOD

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINNERING

Report on Workshop on Advanced Design Techniques

Date: 15th April 2019 to 19th April 2019
Venue: CE Seminar Hall
Conducted by: Department of Civil Engineering
Faculty Coordinators: Mr. Akhil V and Mr. Abhishek C V
Student Coordinators: Ms. Jisna C P and Ms. Athira K V

The Advanced Design Techniques Workshop held at Sree Narayana Guru College of Engineering & Technology from 15th to 19th April 2019, conducted by the Department of Civil Engineering, was an insightful and enriching experience for all participants. Under the adept coordination of the faculty and student coordinators, the five-day workshop provided a comprehensive hands-on training session in water system design.

The workshop aimed to equip participants with practical skills and theoretical knowledge essential for designing efficient water systems. Through a structured curriculum and hands-on activities, participants delved into various aspects of water system design, including:

Understanding water distribution networks.
Designing pipelines and pumping systems.
Hydraulic analysis and modeling.
Sustainable water management practices.
Workshop Highlights:

Expert Guidance: The workshop benefitted greatly from the expertise of Mr. Akhil V and Mr. Abhishek C V, who provided valuable insights and guidance throughout the sessions. Their in-depth knowledge and experience in civil engineering enriched the learning experience for all participants.

Interactive Sessions: The workshop included interactive sessions where participants engaged in discussions, case studies, and problem-solving exercises. This interactive approach fostered a conducive learning environment and encouraged active participation from all attendees.

Hands-on Training: One of the standout features of the workshop was the hands-on training sections, where participants had the opportunity to apply theoretical concepts to real-world scenarios. This practical experience was invaluable in enhancing understanding and skill development.

Student Involvement: The involvement of student coordinators, Ms. Jisna C P and Ms. Athira K

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V, played a crucial role in the success of the workshop. Their dedication, organization, and leadership skills ensured smooth proceedings and active engagement from participants.

Comprehensive Curriculum: The workshop covered a wide range of topics relevant to water system design, ensuring that participants gained a holistic understanding of the subject. From basic principles to advanced techniques, the curriculum was well-structured and comprehensive.

In conclusion, the Advanced Design Techniques Workshop at Sree Narayana Guru College of Engineering & Technology was a resounding success, thanks to the meticulous planning, expert guidance, and active participation of all stakeholders. Participants emerged from the workshop with enhanced skills, practical knowledge, and a deeper appreciation for the complexities of water system design. Such initiatives play a crucial role in preparing future engineers to address the challenges of sustainable water management effectively.

Coordinator

HOD

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ENLIGHTENMENT THROUGH EDUCATION

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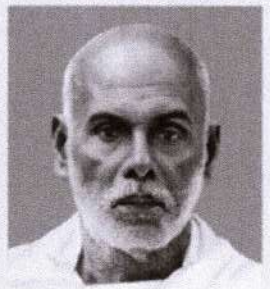

DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE OF PARTICIPATION

This is to certify that **AKSHAY CP** of SNGCET has attended the 5 day e workshop on **Advanced Design Techniques** organized by the **Department of Civil Engineering, Sree Narayana Guru College of Engineering & Technology** held from **15-04-2019 to 19-04-2019**

Dr. LEENA A. V.
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KANNUR

PAYYANUR

Co-ordinator

Head of the Department

Principal

Joyson Mathew
S8CE

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

	Excellent	Good	Fair	Poor
1. Overall how would you rate the training class?	☐	☑	☐	☐
2. How would you rate the trainer's communication and presentation skills	☐	☑	☐	☐
3. Were the interactive elements engaging and beneficial	☐	☑	☐	☐
4. Did you receive enough opportunity for questions and clarification during the session	☐	☑	☐	☐
5. Did this class meet your expectation	☐	☑	☐	☐
6. Were the hands-on activities beneficial in understanding concepts	☐	☑	☐	☐
7. Did the workshop offer practical strategies or tools that you can readily apply	☑	☐	☐	☐
8. Were the technical aspects during the workshop satisfactory	☑	☐	☐	☐
9. Rate the level of interaction between the facilitator and participants	☑	☐	☐	☐
10. Did the workshop covers emerging trend or advancements in the field	☑	☐	☐	☐

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Aishwarya Jayakumar
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DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

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Akshay CP.
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DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

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Amal Raj E·N
S8CE

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF CIVIL ENGINEERING

FEEDBACK FORM

	Excellent	Good	Fair	Poor
1. Overall how would you rate the training class?	☑	☐	☐	☐
2. How would you rate the trainer's communication and presentation skills	☑	☐	☐	☐
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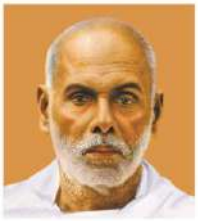

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

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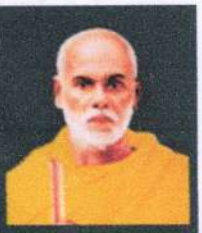

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

OS INSTALLATION

WORKSHOP ON FAMILIARIZATION, ASSEMBLING, INSTALLATION
UNDER THE BANNER OF CSE DEPARTMENT ASSOCIATION TECHKRITI

RESOURCE PERSONS
Mr.ROHITH M & Ms. ANUSHA M

EVENT COORDINATORS

Ms.NIMISHA M K
Mrs.THULASIBAI A

VENUE
SEMINAR HALL & NETWORKING LAB

13/03/2023- 17/03/2023
9.30 AM - 4.00 PM

Dr. LEENA A. V.
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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY,

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAY WORKSHOP ON OS INSTALLATION

SYLLABUS

SL.NO:	TOPICS
1	**INTRODUCTION TO FUNDAMENTALS OF COMPUTER ARCHITECTURE** • Basic of Computer components and computer architecture • Hardware and Software • Hardware Components • Application software and System software
2	**HANDS ON SESSION ON HARDWARE COMPONENTS** • Familiarization of hardware components • Hands on session to know the components, how to connect each component in a system
3	**OS INSTALLATION** • Familiarization of various softwares • Computer Specification • Introduction to operating Systems • Installation procedure
4	**HANDS ON SESSION ON OS INSTALLATION** • Identifying the hardware requirements • Pre installation process • Installation Procedure • Post installation task • Troubleshooting • Back up Recovery
5	**HANDS ON SESSION ON OS INSTALLATION** • Installation of Windows / Ubuntu

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAY WORKSHOP ON OS INSTALLATION

SCHEDULE

SL.NO:	DATE	TOPICS
1	13/03/2023 9:30 AM – 4:00 PM	INTRODUCTION TO FUNDAMENTALS OF COMPUTER ARCHITECTURE
2	14/03/2023 9:30 AM – 4:00 PM	HANDS ON SESSION ON HARDWARE COMPONENTS
3	15/03/2023 9:30 AM – 4:00 PM	OS INSTALLATION
4	16/03/2023 9:30 AM – 4:00 PM	HANDS ON SESSION ON OS INSTALLATION
5	17/03/2023 9:30 AM – 4:00 PM	HANDS ON SESSION ON OS INSTALLATION

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SREE NARAYANA GURU COLLEGE OF ENGINEERING &TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

WORKSHOP REPORT: - FIVE DAY WORKSHOP ON OS INSTALLATION

DATE: - 13/3/2023 to 17/03/2023

VENUE: - SEMINAR HALL

ORGANIZED BY: - DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

STUDENT LIST

SL.NO:	REGISTER NUMBER	NAME
1.	SNC22CS005	ABHINAV P P
2.	SNC22CS013	AKHIL SANTHOSH
3.	SNC22CS015	AMARNATH BALAN C
4.	SNC22CS017	ANUNANDA V K
5.	SNC22CS018	ANURAG C P
6.	SNC22CS019	ANUSREE RATHEESH
7.	SNC22CS020	ANUSRUTHI K MANOJ
8.	SNC22CS021	ARCHANA P V
9.	SNC22CS024	ASWIN RAJ
10.	SNC22CS025	AVANI C
11.	SNC22CS027	FATHIMA HASHIM
12.	SNC22CS031	GOPIKA V
13.	SNC22CS032	HANNA R P
14.	SNC22CS033	HARIKRISHNAN K
15.	SNC22CS037	MANJIMA A N
16.	SNC22CS041	MEGHNA MANOJ
17.	SNC22CS043	MOHAMMED MAZIN K V

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18.	SNC22CS045	MUBASHIR K C
19.	SNC22CS047	MUHAMMED AMRE ASHRAF
20.	SNC22CS049	NAAZ ABDUL JALEEL
21.	SNC22CS050	NANDANA K P
22.	SNC22CS052	NEHA MANU
23.	SNC22CS053	NEHA RAMESH
24.	SNC22CS056	NIHARIKA P
25.	SNC22CS057	PRITIKA NITTUR
26.	SNC22CS058	ROSLIN JIMMY
27.	SNC22CS059	SANGEERTH SAJEEV
28.	SNC22CS060	SHAHANAS CP
29.	SNC22CS063	SREEHARI M
30.	SNC22CS064	SREELAKSHMI E
31.	SNC22CS065	VYSHNA SHAJI

EVENT COORDINATOR

HoD

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KANNUR

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
WORKSHOP: - OS INSTALLATION
ATTENDANCE SHEET

REGISTER NO.	NAME	13-03-2023		14-03-2023		15-03-2023		16-03-2023		17-03-2023	
		FN	AN	FN	AN	FN	AN	FN	AN	FN	AN
SNC22CS005	ABHINAV P P										
SNC22CS013	AKHIL SANTHOSH										
SNC22CS015	AMARNATH BALAN C										
SNC22CS017	ANUNANDA V K										
SNC22CS018	ANURAG C P										
SNC22CS019	ANUSREE RATHEESH										
SNC22CS020	ANUSRUTHI K MANOJ										
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SNC22CS024	ASWIN RAJ										
SNC22CS025	AVANI C										
SNC22CS027	FATHIMA HASHIM										
SNC22CS031	GOPIKA V										
SNC22CS032	HANNA R P										
SNC22CS033	HARIKRISHNAN K										
SNC22CS037	MANJIMA A N										
SNC22CS041	MEGHNA MANOJ										
SNC22CS043	MOHAMMED MAZIN K V										
SNC22CS045	MUBASHIR K C										
SNC22CS047	MUHAMMED AMRE ASHRAF										
SNC22CS049	NAAZ ABDUL JALEEL										
SNC22CS050	NANDANA K P										
SNC22CS052	NEHA MANU										
SNC22CS053	NEHA RAMESH										
SNC22CS056	NIHARIKA P										
SNC22CS057	PRITIKA NITTUR										
SNC22CS058	ROSLIN JIMMY										
SNC22CS059	SANGEERTH SAJEEV										
SNC22CS060	SHAHANAS CP										
SNC22CS063	SREEHARI M										
SNC22CS064	SREELAKSHMI E										
SNC22CS065	VYSHNA SHAJI										

Event Coordinator

HOD/CSE

Dr. LEENA A. V.
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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

WORKSHOP REPORT : FIVE DAY WORKSHOP ON OS INSTALLATION

DATE : 13/3/2023 to 17/03/2023

VENUE : SEMINAR HALL

ORGANIZED BY : TECHKRITI , CSE ASSOCIATION

The five-day workshop on operating system (OS) installation was organized with the aim of providing participants with comprehensive knowledge and hands-on experience in installing operating system and familiarization on hardware components. The workshop covered a range of topics including hardware components, OS fundamentals, preparation for installation, installation procedures for different OS types, troubleshooting common issues, and post-installation configuration.

Day 1: Familiarization of hardware components: - The first day focused on introducing participants on the basics of hardware components of a computer. Students engaged in interactive discussions and activities to reinforce their understanding.

Day 2: Hands on session on hardware components: - On Second day, the students got an hands on session to familiarize the hardware components and students were familiarized with components.

Day 3: - Talk on OS installation: - The third day, a lecture session was given to the students to get to know about the steps and procedure required for installing an OS.

Day 4: - Hands on session on OS installation: -Fourth day was dedicated to the students for practical demonstrations and hands on exercise to ensure them how OS is installed.

Day 5: - Feedback and Response: - Last day of the workshop is provided for an interactive session to get the feedback and responses from both students and resource persons. And an online test was conducted to get the analysis of the workshop.

The five-day workshop on OS installation provides students with a comprehensive understanding of the installation process as well as to get familiarize with hardware components. By combining theoretical concepts with practical hands-on experience, students gained valuable skills that are essential in the IT industry. The workshop received positive feedback from students who expressed satisfaction with the content, delivery, and interactive nature of the sessions.

Event Coordinators

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2022-23

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

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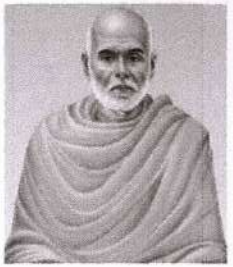

CERTIFICATE

of participation

Presented to ***ABHINAV P P, S2 CSE*** for attending five days Work shop on **OS INSTALLATION** conducted by Department of Computer Science and Engineering from 13/03/2023 to 17/03/2023 at Networking Lab, **SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY , PAYYANUR .**

Nimisha M K
COORDINATOR

Dr. LEENA A. V.
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Sunder V
HOD CSE

A FIVE DAY WORKSHOP ON OS INSTALLATION

38 responses

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Name

33 responses

Anunanda vk

Neha Ramesh

Gopika v

Pritika Nittur

Mubashir

Shahanas cp

FATHIMA HASHIM

Roslin Jimmy

Meghna Manoj

Akhil santhosh

Anusree Ratheesh

Avani C

Archana P V

Niharika p

Manjima

Sreelakshmi.E

Muhammed Amre Ashaf

NANDANA.K P

Anusruthi K Manoj

Anurag C P

mohammed mazin kv

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VYSHNA SHAJI

Naaz abdul jaleel

Harikrishnan k

Abhinav PP

Hanna.RP

AMARNATH BALAN C

Aswin Raj

Sreehari M

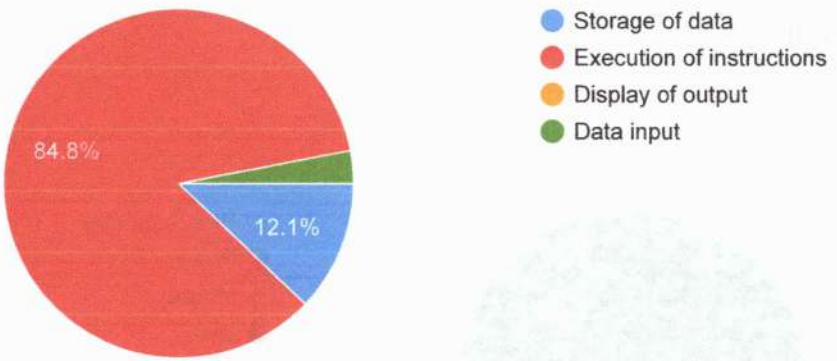
SANGEERTH SAJEEV

Neha Manu

What is the primary function of a CPU in a computer system?

Copy

33 responses



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Which of the following is a volatile memory type used in computers?

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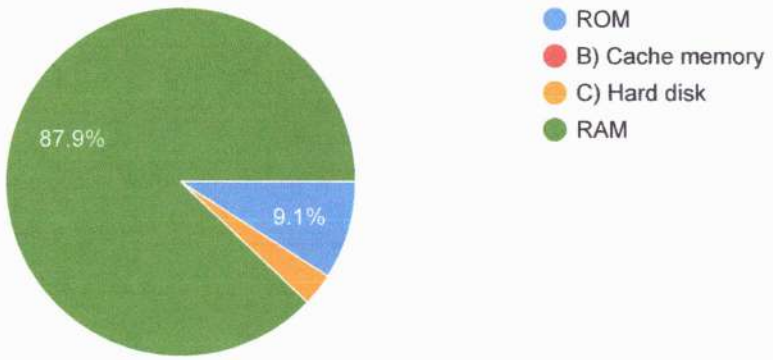
33 responses



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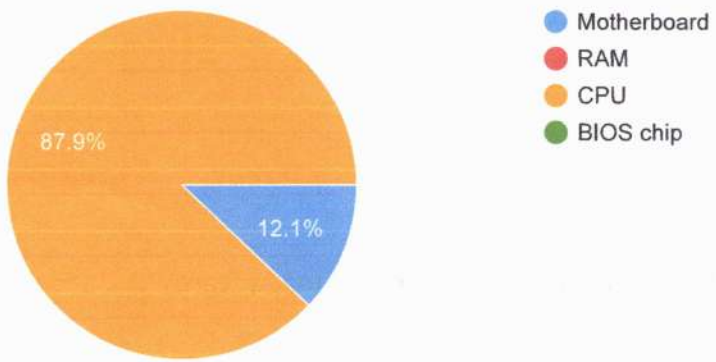
Which of the following is considered as the brain of the computer?

33 responses



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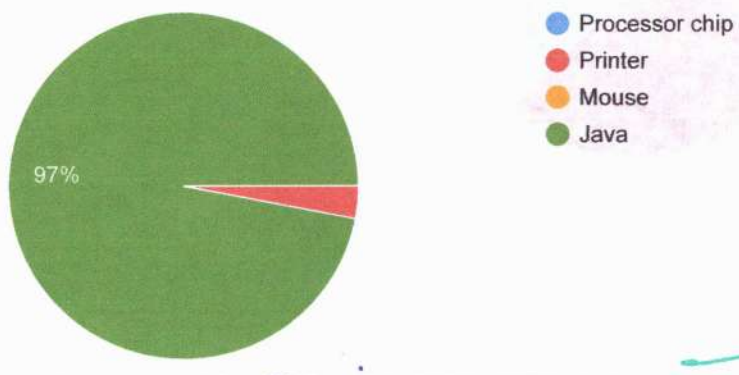
Which of the following is not hardware?

33 responses



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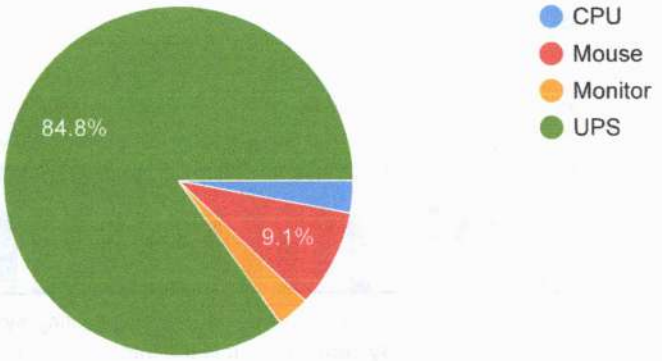
Which of the following is not an integral part of the computer system?

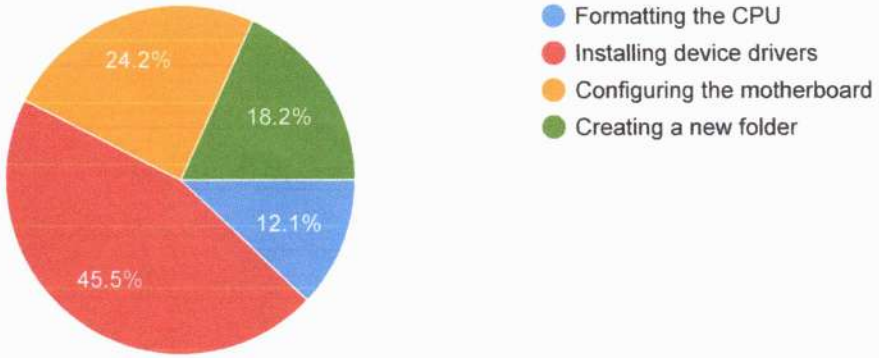
33 responses



Which of the following is a step in the OS installation process?

Copy

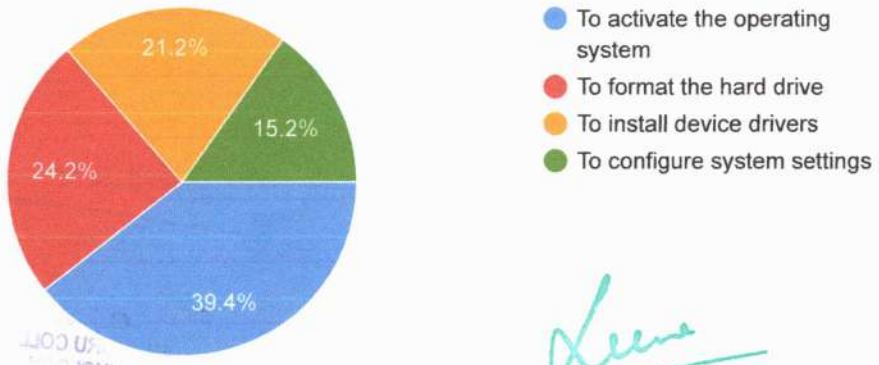
33 responses



What is the role of the product key or license key during OS installation?

Copy

33 responses



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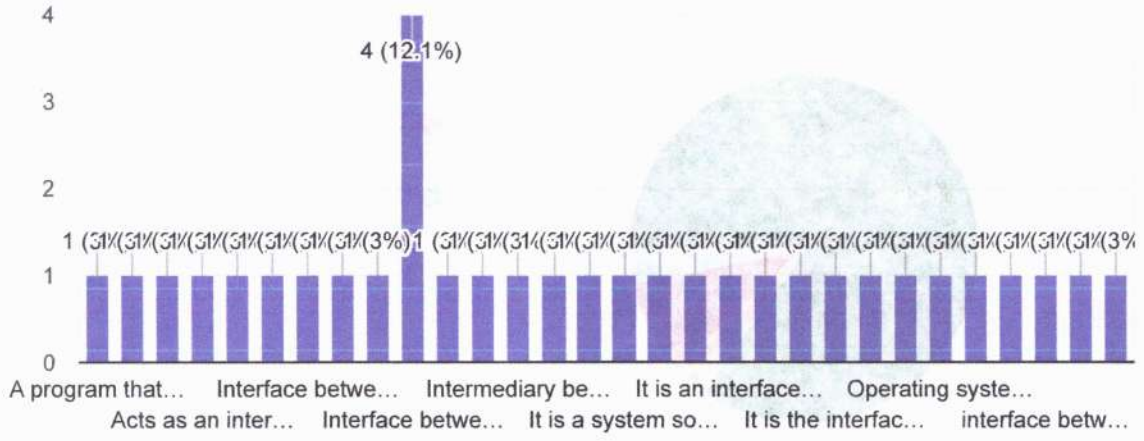
What is an Operating System?

Copy

33 responses



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Difference between system software and application software.

33 responses

System software is essential but application software is not essential

System software provides the platform to execute the program.Application software used to do some specific task .

System software platform depended and application software platform independent

System software provides platform to function to run application software performs the specific task

system software is used to run the system and application software is used to run specific task

System software is used run the system.
Application software is used to perform specific task.

System software runs independently, Application software needs System software to run .

System software is a general purpose software and it is use to run the system
Application software specific purpose software

System Software maintains the system resources and gives the path for application software to run
Application software is built for specific tasks

system software provides foundational services and manages computer hardware and the application software performs specific tasks

A system cannot run without a system software,but system can run without application software

A system cannot run without a system software but system can run without application software.

System cannot run without a system software but system can run without application software.

System cannot run without system software but system can run without application software

System can't run without system software, system can run without application software

System can't run without system software .
Application software to Perform a specific task

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An application is software that fulfills a specific need or performs tasks. System software is designed to run a computer's hardware and provides a platform for applications to run on top of

Without system software program will not run and without application software program runs.

System software manages and controls the computer hardware. Application software is designed for specific tasks

system software is used to run computer hardware
application software is used to run specific task

idk

System software is the interface between application software and the system.Application software is the type of software that runs as per user request.

Gives path in a software application to run

System software is a software thats is designed to run a computer hardware.
Application software is a special software used to run a specific task.

System Software:System software acts as the backbone of a computer system, providing essential functionalities to enable the operation of hardware and other software.It manages the resources and activities of the computer system, including memory management, disk management, process management, and device management.Examples of system software include operating systems (e.g., Windows, macOS, Linux), device drivers, firmware, and utility programs like antivirus software and disk defragmenters.Application Software:Application software refers to programs designed to perform specific tasks or provide specific functions for users.It is created to fulfill the needs or requirements of end-users, such as word processors, web browsers, email clients, video games, and productivity software like spreadsheet applications and graphic design tools.Unlike system software, application software is not essential for the functioning of the computer system itself but is used by users to carry out various tasks and activities.

System software is a computer programme designed to run a computer's hardware and application programs

System software is madoratary for computer.
Application software is not mandatory

System can't run without system software. Application software to Perform a specific task

System software - controls basic operations of computer.
Application software - performs specific tasks for users.

System can't run without System software. Application software is used for running specific tasks.

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System can't run without system software.
Application software is to perform a specific task

Application software is used to perform a specific task.
System can't run without system software.

Helps in the working of computer
Helps in the working of application of computer

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Difference between hardware and software

33 responses

Hardware is touchable software is not touchable

Hardware is the electromechanical device of the computer. Software is anything that tells the hardware what to do and how to do it.

Hardware have physical existence and software dont

Hardware can be touched, software can't

hardware is physical components of the computer and Software is anything that tells hardware what to do and how to do it, including computer programs and apps on your phone.

Hardware physical components of computer.
Software is anything that tells hardware what and how to do.

Hardware is the physical part and software is which instruct the computer how to do these tasks

Hardware is a physical part of the computer
Software is the program which is executed by cpu

Hardware refers to the physical and visible components of the system such as a monitor, CPU, keyboard and mouse whereas software refers to a set of instructions which enable the hardware to perform a specific set of tasks

Software is the data which instructs the hardware to perform certain tasks and the hardware is a physical component

Hardware -physical part of computer.
Software - set of programs to perform specific task.

Hardware is the physical part of a computer.Software is a set of program for performing a specific task.

Hardware is the physical part of the computer. Software is the set of program to perform specific task

Hardware is physical part of the computer and software is set of program to perform specific task

Hardware is the physical part of a computer , software is the set of programs to specific tasks

Hardware is a Physical part of a computer.
Software is set instruction to perform specific task.

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Hardware is any element of a computer that's physical. This includes things like monitors, keyboards, and also the insides of devices, like microchips and hard drives. Software is anything that tells hardware what to do and how to do it, including computer programs and apps on your phone

Hardware is the part something we can touch .

Hardware refers to the physical components of a computer system that we can touch. Software refers to the programs and instructions that run on the hardware

hardware is the physical part of the computer system
software is the set of instruction used to run the computer system

idk

Hardware is physical components of a computer.Software is a collection of instructions.

Hardware is a physical part of the computer, it can be touched. Software it cannot be touched

Hardware is the physical component of the computer which we can touch and feel.software is a set of instruction or programs which can be used to perform specific task.

Hardware refers to the physical components of a computer system, such as the processor, memory, hard drive, and peripherals like keyboards and monitors. In contrast, software refers to the programs and instructions that tell the hardware what to do, including operating systems, applications, and utility programs. Hardware is tangible and can be touched, while software is intangible and exists as code stored on hardware.

Hardware is any element of a computer that's physical and software is anything that tells hardware what to do and how to do it

Hardware is touchable parts
Software is not touchable

Hardware is a Physical part of a computer. Software is set instruction to perform specific task.

Hardware - physical components such as the monitor, keyboard, mouse etc.
Software - programs and instructions that tell the hardware what to do, including operating systems, applications, and games.

Hardware is a physical part of computer, and software is a set of instructions to run tasks.

Hardware is a physical part of a computer.
Software is set of instruction to perform specific task

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Software is the set of instructions to perform specific task.
Hardware is the physical part of computer.

Hardware is the part of computer we can touch physically others are known as software

Session was useful and well organized

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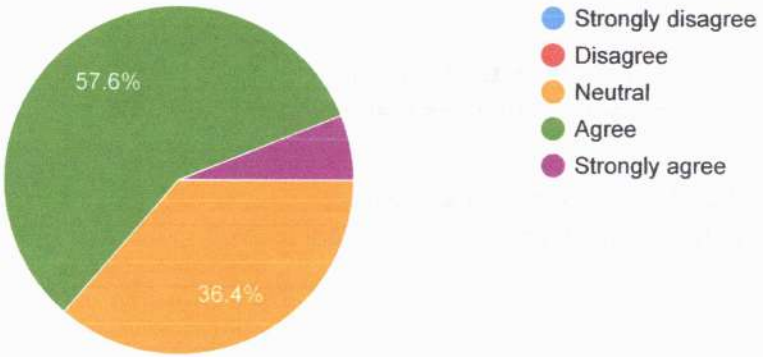

Information imparted in the program

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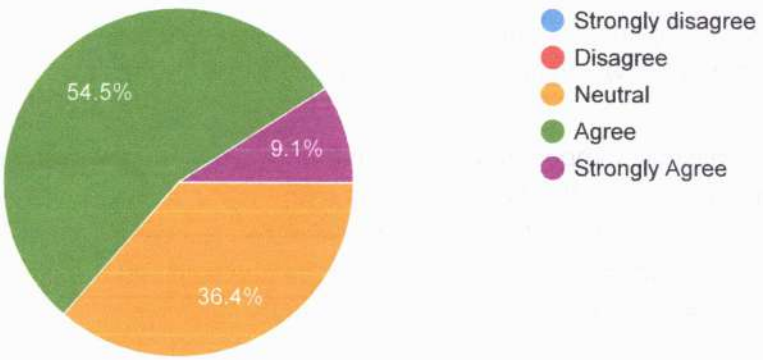

Usefulness of course contents in practical use

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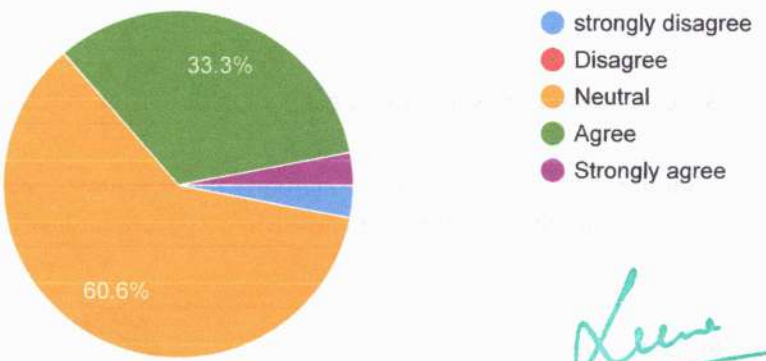
33 responses



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Knowledge about the subject : Mr.ROHITH M & Ms.ANUSHA M

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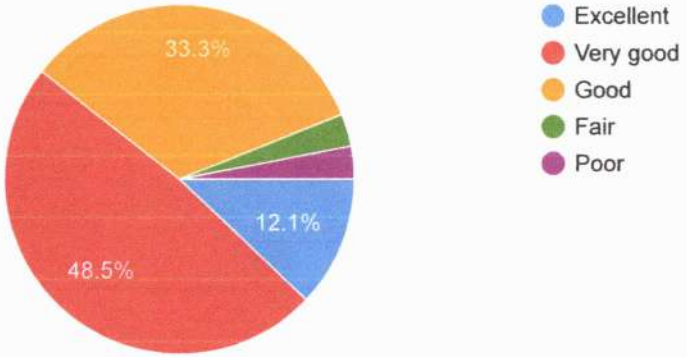

Any Suggestions

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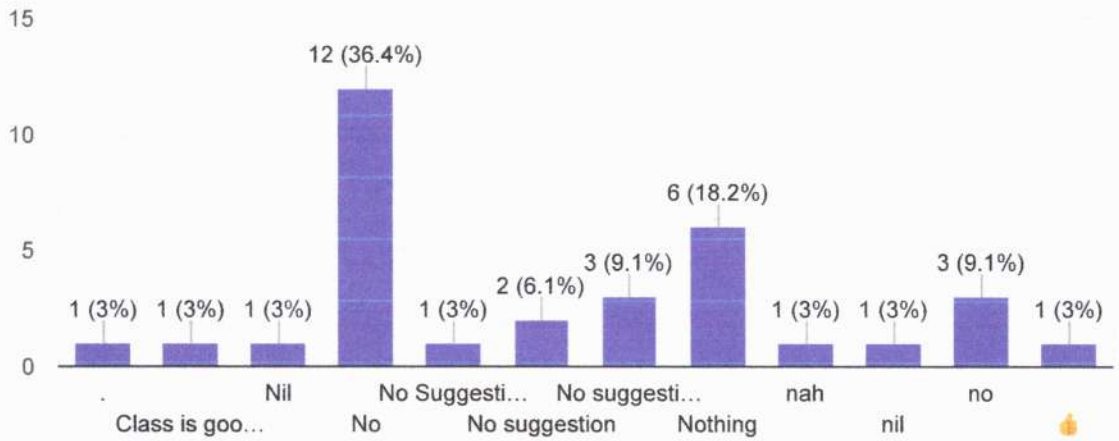
33 responses



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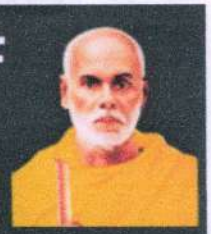

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Learn LaTex

RESOURCE PERSON

Ms. NEHA M V

AP CSE, SNGCET

EVENT COORDINATOR

Ms.VIJINA VIJAYAN

VENUE
NETWORKING LAB

16/05/2022- 20/05/2022
9.30 AM - 4.00 PM

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAY WORKSHOP ON LEARN LATEX

SCHEDULE

SL. No	DATE	TOPIC
1.	16-05-2022 9:30 AM -4:00 PM	Introduction to LaTeX
2.	17-05-2022 9:30 AM -4:00 PM	Document Formatting
3.	18-05-2022 9:30 AM -4:00 PM	Mathematical Typesetting
4.	19-05-2022 9:30 AM -4:00 PM	Referencing and Citations
5.	20-05-2022 9:30 AM -4:00 PM	Advanced LaTeX Features

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAY WORKSHOP ON LEARN LATEX

SYLLABUS

Sl. No	TOPIC
1.	**Introduction to LaTeX** • Basic document structure • Set up a LaTeX environment • To create a simple documents
2.	**Document Formatting** • Text formatting • Page layout • Creating lists, tables, and figures
3.	**Mathematical Typesetting** • How to write mathematical equations using LaTeX syntax • Practical examples and exercises
4.	**Referencing and Citations** • Bibliography management using BibTeX or BibLaTeX • To create custom citation styles • Managing multiple bibliographies
5.	**Advanced LaTeX Features** • How to create templates, customizing document layouts, using packages for specialized tasks • Collaboration using version control systems

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

WORKSHOP REPORT: - FIVE DAYS WORKSHOP ON LEARN LATEX

DATE: - 16/05/2022 to 20/05/2022

VENUE: - MEETING HALL & NETWORKING LAB

The five-day workshop on learning LaTeX was organized with the aim of introducing participants to the LaTeX typesetting system widely used in academic and scientific writing. The workshop covered various aspects of LaTeX, including document formatting, mathematical typesetting, referencing, and advanced features.

Day 1: Introduction to LaTeX

The first day of the workshop focused on introducing participants to LaTeX and its advantages over traditional word processors. Basic document structure, including document classes, packages, and the LaTeX syntax, was covered. Participants learned how to set up a LaTeX environment on their computers and began creating simple documents.

Day 2: Document Formatting

On the second day, the workshop delved deeper into document formatting using LaTeX. Topics included text formatting (such as fonts, styles, and alignment), page layout (margins, headers, and footers), and creating lists, tables, and figures within LaTeX documents. Participants practiced formatting exercises to reinforce their learning.

Day 3: Mathematical Typesetting

Mathematical typesetting is one of LaTeX's strengths, and day three was dedicated to mastering this aspect. Participants learned how to write mathematical equations using LaTeX syntax, including inline math, display math, matrices, and special symbols. Practical examples and exercises helped participants gain confidence in typesetting mathematical content.

Day 4: Referencing and Citations

The fourth day focused on managing references and citations in LaTeX documents. Participants learned about bibliography management using BibTeX or BibLaTeX, citing sources within the text, and generating a bibliography. Advanced topics such as creating custom citation styles and managing multiple bibliographies were also covered.

Day 5: Advanced LaTeX Features

The final day of the workshop explored advanced features of LaTeX. Topics included creating templates, customizing document layouts, using packages for specialized tasks (e.g., graphics, algorithms), and collaborating on LaTeX projects using version control systems like Git. Participants also learned about online resources and communities for LaTeX users.

The workshop received positive feedback from participants, who appreciated the hands-on approach, clear explanations, and practical exercises. Many expressed confidence in using LaTeX for their future academic and professional writing projects. The organizing committee thanked the participants, instructors, and sponsors for making the workshop a success and encouraged continued exploration of LaTeX's capabilities.

Overall, the five-day workshop on learning LaTeX was a valuable learning experience for participants, equipping them with essential skills for producing high-quality documents in various fields.

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WORKSHOP: - LEARN LATEX

STUDENT ENROLLED LIST

REGISTER NO.	NAME
SNC19CS001	AATHISH P JAGADEESH
SNC19CS002	ABHINAV.A.P
SNC19CS003	AHMED ADIL
SNC19CS004	AJMAL
SNC19CS005	ALTHAF ASHRAF.K.V
SNC19CS015	HRYSHIKA PRADEEP
SNC19CS016	JEEVA NARAYANAN
SNC19CS017	KAVYA DEVI.M.K
SNC19CS018	MANILA MAHESH
SNC19CS019	MEGHA.P.K
SNC19CS034	SREENANDANA.T.V
SNC19CS035	SREENISHA.K.P
SNC19CS036	THANMAYA SANJEEV
SNC19CS037	THANYA MOHAN
SNC19CS038	THEJA RAJESH
SNC19CS042	VISHNU.R
SNC19CS043	V.K.AYSHA
LSNC19CS044	ABHIJITH RAMRAJ P K
LSNC19CS046	JIJO JAISON
LSNC19CS045	ADARSH KS

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Vijina Vijayen
Event Coordinator

HOD/CSE

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

WORKSHOP: - LEARN LATEX

ATTENDANCE SHEET

REGISTER NO.	NAME	16/05/2022	17/05/2022	18/05/2022	19/05/2022	20/05/2022
SNC19CS001	AATHISH P JAGADEESH					
SNC19CS002	ABHINAV.A.P					
SNC19CS003	AHMED ADIL					
SNC19CS004	AJMAL					
SNC19CS005	ALTHAF ASHRAF.K.V					
SNC19CS015	HRYSHIKA PRADEEP					
SNC19CS016	JEEVA NARAYANAN					
SNC19CS017	KAVYA DEVI.M.K					
SNC19CS018	MANILA MAHESH					
SNC19CS019	MEGHA.P.K					
SNC19CS034	SREENANDANA.T. V					
SNC19CS035	SREENISHA.K.P					
SNC19CS036	THANMAYA SANJEEV					
SNC19CS037	THANYA MOHAN					
SNC19CS038	THEJA RAJESH					
SNC19CS042	VISHNU.R					
SNC19CS043	V.K.AYSHA					
LSNC19CS044	ABHIJITH RAMRAJ P K					
LSNC19CS046	JIJO JAISON					
LSNC19CS045	ADARSH KS					

Vijina Vijayan
Event Coordinator

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CERTIFICATE

of participation

Presented to **THANMAYA SANJEEV** for attending five days Workshop on **LEARN LATEX** conducted by the Department of Computer Science and Engineering from 16/05/2022 to 20/05/2022.

Vijina Vijayan
COORDINATOR

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Sunder V
HOD CSE

Name: Hryshika Roll No:- SNC19CS015

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAYS WORKSHOP ON LEARN LATEX

ASSESSMENT AND FEEDBACK FORM

1. **What is the purpose of LaTeX in document preparation?**
   a) To create spreadsheets
   b) To typeset complex documents with mathematical equations & technical content
   c) To edit images and graphics
   d) To create animations

2. **Which command is used to compile a LaTeX document into a PDF format?**
   a) pdftex
   b) latexmk
   c) compilelatex
   d) maketex

3. **Which LaTeX environment is suitable for writing research papers, reports, and academic articles?**
   a) article
   b) book
   c) memoir
   d) report

4. **Were the workshop topics relevant and informative?**
   a) Very Relevant
   b) Relevant
   c) Somewhat Relevant
   d) Not Relevant

5. **Which topics did you find most valuable or interesting?**
   a) Introduction to LaTeX
   b) Document Formatting
   c) Mathematical Typesetting
   d) Referencing and Citations
   e) Advanced LaTeX Features

6. **How would you rate the instructors' knowledge and expertise in teaching LaTeX?**
   a) Excellent
   b) Very Good
   c) Good
   d) Fair
   e) Poor

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7. How would you rate the overall organization of the workshop?

a) Excellent
b) Very Good
c) Good
d) Fair
e) Poor

8. How would you rate the overall organization of the workshop?

a) Excellent
b) Very Good
c) Good
d) Fair
e) Poor

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DR. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF
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KANNUR

Name: AJMAL..... Roll No:- SNC19CS004

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAYS WORKSHOP ON LEARN LATEX

ASSESSMENT AND FEEDBACK FORM

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Name: Ahmed Adil Roll No:- SNC19CS003

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Name: Thanya Mohan Roll No:- SNC19CS037

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Name: Vishnu. R Roll No:- SNC19CS042

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Name: THEJA RAJESH Roll No:- SNC19CS038

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Name: V. K. Aysha Roll No:- SNC19CS043

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Name: TIJO JAISON Roll No:- LSNC19CS046

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Name: Abhijith Ramaraj P.K Roll No:- LSNC.19CS044

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

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Name: Adarsh K S Roll No:- LSNC19CS045

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Name: THANMAYA SANJEEV Roll No:- SNG19CS036

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Name: Meghu P.K Roll No:- SNC19CS019

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Name: SREENISHA I.P Roll No:- SNC19CS035

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Name: Sreenandana T.V Roll No:- SNC19CS034

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Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

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10. Additional Comments:

Please share any additional comments, suggestions, or feedback about the workshop.

Dr. LEENA A. V.
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KANNUR

Name: Jeeva Narayanan. Roll No:- SNC19CS016

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAYS WORKSHOP ON LEARN LATEX

ASSESSMENT AND FEEDBACK FORM

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Name: Manila Mahesh Roll No:- SNC19CS018

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Name: Kavya Devi M.K Roll No:- SNC19CS017

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Name: ABHINAV .AP Roll No:- SNC19CS002

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KANNUR

Name: Aathish P Jagadeesh. Roll No:- SNC19CS001

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Name: Althaf Ashraf Roll No:- SNC19CS005

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

Korom, Chalakkode P.O., Payyanur, Kannur - 670307
Managed by Sree Bhakthi Samvardhini Yogam, Talap, Kannur
Affiliated to APJ Abdul Kalam Technological University and Approved by AICTE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ONLINE PYTHON WORKSHOP

RESOURCE PERSONS

Mr. Sunder V
Assistant Professor, SNGCET

Mrs. Sharija P
Assistant Professor, SNGCET

Dr. LEENA A. V.
PRINCIPAL

EVENT COORDINATOR

Ms. Jithika K M
Assistant Professor SNGCET

VENUE
Google Meet

01/03/2021- 05/03/2021
9.00 AM - 4.00 PM

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAY ONLINE WORKSHOP ON PYTHON

SCHEDULE

SL.NO:	DATE	TOPICS
1	01/03/2021 9:00 AM – 4:00 PM	Introduction to Python
2	02/03/2021 9:00 AM – 4:00 PM	Installation of Python
3	03/03/2021 9:00 AM – 4:00 PM	Basics of BS- python shell
4	04/03/2021 9:00 AM – 4:00 PM	Introduction to list
5	05/03/2021 9:00 AM – 4:00 PM	Coding Challenges

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KANNUR

SREE NARAYANA GURU COLLEGE OF ENGINEERING

& TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINNERING

Online Workshop on Python

SYLLABUS

Sl. No	Topic
1	**Introduction to Python** • Python data types • Python basic syntax • popular libraries in python • Software used in python and organizations used python
2	**Installation of Python** • How to install pycharm • Installation and configuration of pycharm • Introduction to pycharm
3	**Basics of BS- python shell** • Basic concepts of python shell • installation of python • control structure • looping statements used in python
4	**Introduction to list** • CS list • various list functions • range, cs for loop • Functions used in python
5	**Coding Challenges**

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PYTHON ONLINE WORKSHOP
STUDENT LIST

VENUE: GOOGLE MEET
DATE : 01/03/21 to 05/03/21

SL NO.	REG NO.	NAME
1	SNC20CS001	AARDRA PRASANTH
2	SNC20CS002	AATHISH R
3	SNC20CS003	ABHIJITH A
4	SNC20CS004	ABHINAV A V
5	SNC20CS010	AMAL M.V
6	SNC20CS011	ANAGHA ANILKUMAR
7	SNC20CS012	ANAGHA P P
8	SNC20CS017	ARJUN M
9	SNC20CS018	ASWATHI PI
10	SNC20CS022	GOPIKA PRAMOD KUMAR
11	SNC20CS023	G P THRISHNA
12	SNC20CS024	HAMNA SHERIN A
13	SNC20CS025	HIMA MURALI K
14	SNC20CS030	MOHAMMED ZAYISH THAYYIL
15	SNC20CS031	MRUDHUNA MANOJ K
16	SNC20CS032	MUHAMMED ANSAR SAFER
17	SNC20CS033	NANDANA M.V
18	SNC20CS037	RIYA RAJESH
19	SNC20CS038	SAFA ACHIRETHARAMMAL KURUKKAN
20	SNC20CS042	VISWAJEETH P

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PYTHON ONLINE WORKSHOP
ATTENDANCE SHEET

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1	SNC20CS001	AARDRA PRASANTH	X	X	X	X	X
2	SNC20CS002	AATHISH R	X	X	X	X	X
3	SNC20CS003	ABHIJITH A	X	X	X	X	X
4	SNC20CS004	ABHINAV A V	X	X	X	X	X
5	SNC20CS010	AMAL M.V	X	X	X	X	X
6	SNC20CS011	ANAGHA ANILKUMAR	X	X	X	X	X
7	SNC20CS012	ANAGHA P P	X	X	X	X	X
8	SNC20CS017	ARJUN M	X	X	X	X	X
9	SNC20CS018	ASWATHI PI	X	X	X	X	X
10	SNC20CS022	GOPIKA PRAMOD KUMAR	X	X	X	X	X
11	SNC20CS023	G P THRISHNA	X	X	X	X	X
12	SNC20CS024	HAMNA SHERIN A	X	X	X	X	X
13	SNC20CS025	HIMA MURALI K	X	X	X	X	X
14	SNC20CS030	MOHAMMED ZAYISH THAYYIL	X	X	X	X	X
15	SNC20CS031	MRUDHUNA MANOJ K	X	X	X	X	X
16	SNC20CS032	MUHAMMED ANSAR SAFER	X	X	X	X	X
17	SNC20CS033	NANDANA M.V	X	X	X	X	X
18	SNC20CS037	RIYA RAJESH	X	X	X	X	X
19	SNC20CS038	SAFA ACHIRETHARAMMAL KURUKKAN	X	X	X	X	X
20	SNC20CS042	VISWAJEETH P	X	X	X	X	X

Event Co-ordinator

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PRINCIPAL
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HoD

SREE NARAYANA GURU COLLEGE OF ENGINEERING &TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ONLINE WORKSHOP REPORT: FIVE DAYS WORKSHOP ON PYTHON

DATE: 01/03/2021 to 05/03/2021

VENUE: SEMINAR HALL

ORGANISED BY : TECHKRITI, CSE ASSOCIATION

The five days online workshop on python was organized with the aim of providing partcipants with comprehensive knowledge and gand-on experience in python . The online workshop covered a range of topics installation of python, basic concepts of python and BS- python shell, cs- list and functions used in python.

Day 1: Introduction of Python: The first day focused on basics of python. Students engaged in interactive discussion and activities to reinforce their understanding in online.

Day 2: Installation of python: The second day , the students got an hands on session for pycharm installation.

Day 3: Introduction to BS- python shell: The third day a lecture session was given to the students to get to know about the basics of python shell.

Day 4:The session about the CS-list : Fourth day, was dedicated to the students for practical demonstrations and exercise to ensure them how to develop a python program with cs list.

Day 5: Feedback and response: Last day of the online workshop is provided for an interactive session to get the feedback and responses from students through online.

The five day online workshop provided students with a understanding of the basics of python language.By combining theoratical concepts and practical session through online is worth for the students.

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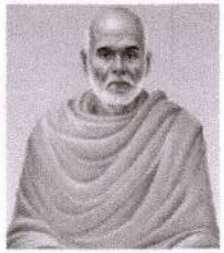

CERTIFICATE

of participation

Presented to.....***AARDRA PRASANTH, S2 CSE***..... for attending five days online Work shop on Python conducted by Department of Computer Science and Engineering from 01/03/2021 to 05/03/2021 at SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY , PAYYANUR .

Ms. Jithika K M
COORDINATOR

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF
ENGINEERING & TECHNOLOGY, PAYYANUR
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Mr. Sujith D K
HOD, CSE

Python Workshop

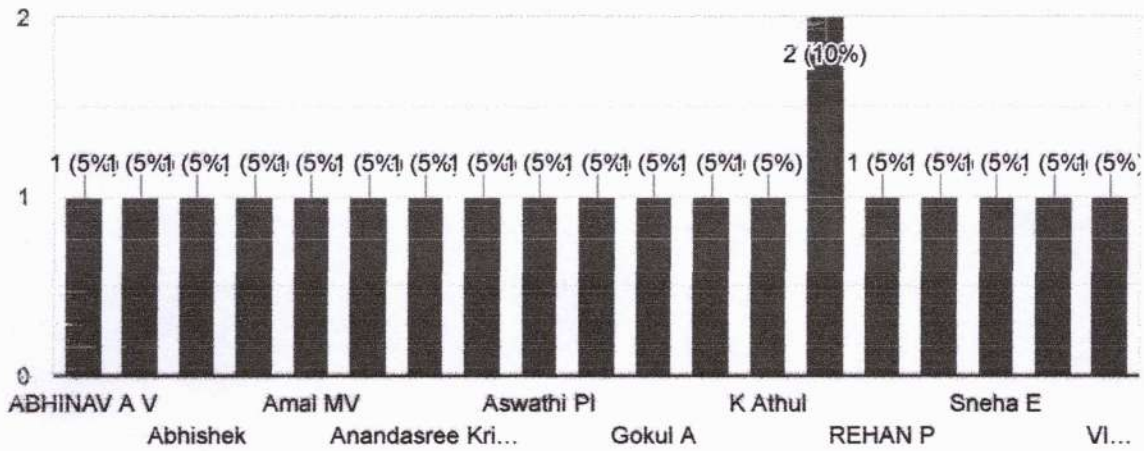
20 responses

Publish analytics

Name

Copy

20 responses

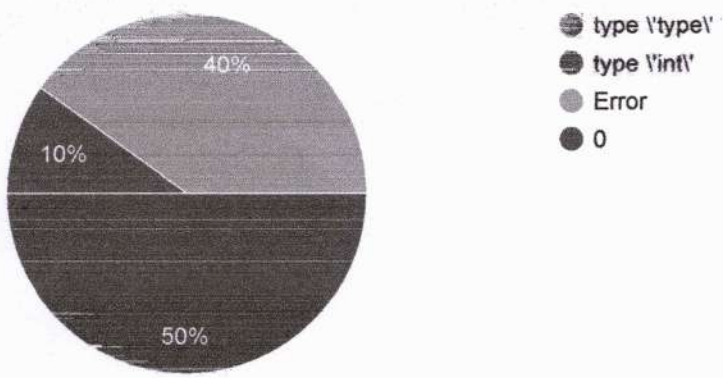


What will be the output of the following code :

Copy

print type(type(int))

20 responses



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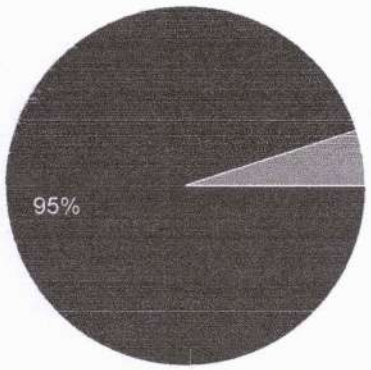
What is the output of the following code :

Copy

```
L = ['a','b','c','d']
print("".join(L))
```

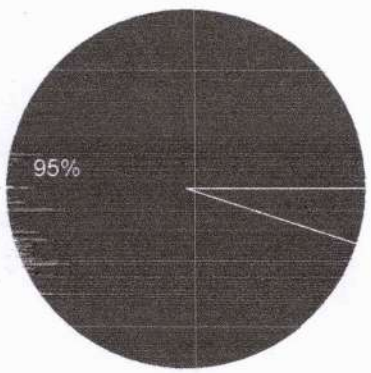
20 responses



What is called when a function is defined inside a class?

Copy

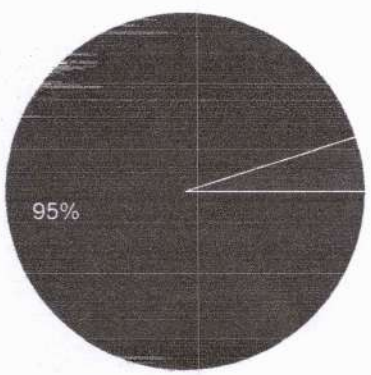
20 responses



Which of the following is the use of id() function in python?

Copy

20 responses



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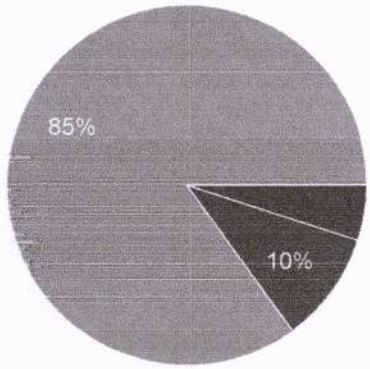
Suppose list1 is [3, 4, 5, 20, 5, 25, 1, 3], what is list1 after list1.pop(1)?

Copy

20 responses

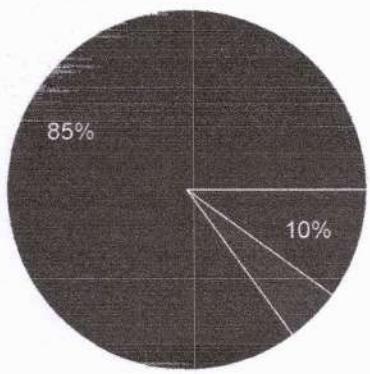


- [1, 3, 3, 4, 5, 5, 20, 25]
- [3, 4, 5, 20, 5, 25, 1, 3]
- [3, 5, 20, 5, 25, 1, 3]
- [1, 3, 4, 5, 20, 5, 25]

Which function overloads the >> operator?

Copy

20 responses

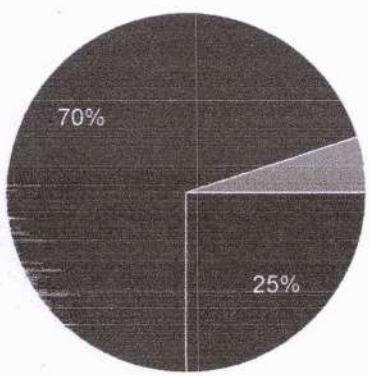


- more()
- gt()
- ge()
- None of the above

Session was useful and well organized

Copy

20 responses



- Strongly agree
- Agree
- Neutral

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Usefulness of Course Contents in practical use.

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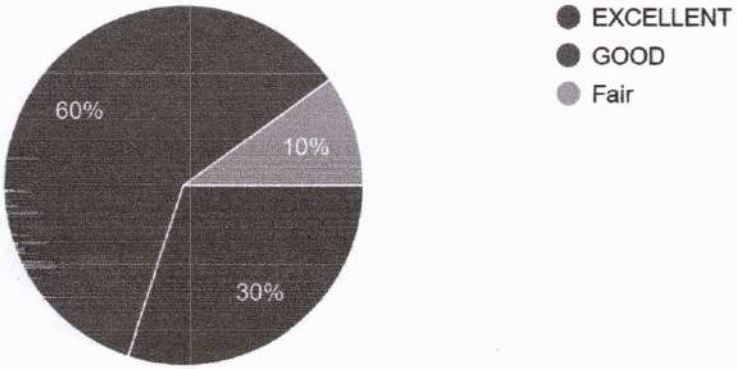
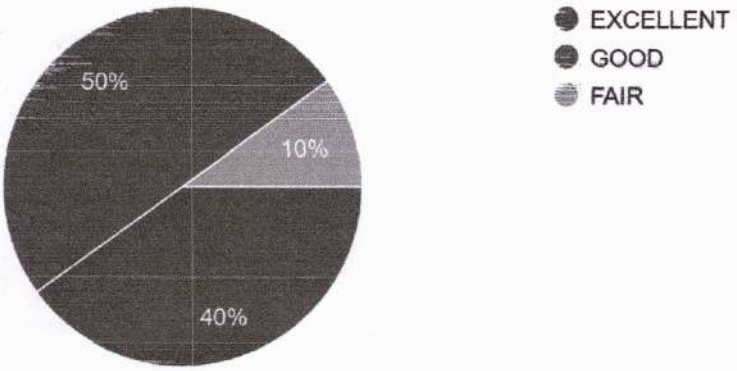


Information imparted in the program

Copy

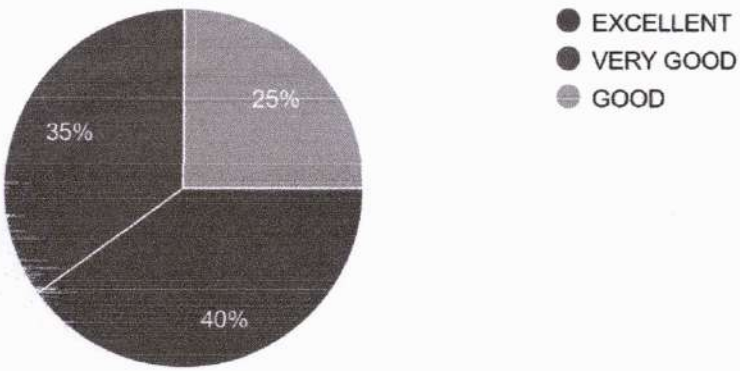
20 responses



Knowledge about the subject :Mr. Sunder V

Copy

20 responses



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Online Workshop on

Trending Perspectives of AI in Robotics

RESOURCE PERSONS

Mr. Sunder V
Assistant Professor, ASIET, Kalady

Mrs. Gripsy Paul Mannickathan
Assistant Professor, ASIET, Kalady

EVENT COORDINATOR

Ms. Sreeraji Narayanan
Assistant Professor SNGCET

VENUE
Google Meet
07/04/2020 - 11/04/2020
10 am - 4 pm

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAY ONLINE WORKSHOP ON TRENDING PERSPECTIVE OF AI IN ROBOTICS

SCHEDULE

SL. No	DATE	TOPIC
1.	07/04/2020 10:00 AM – 4:00 PM	Introduction to AI in Robotics
2.	08/04/2020 10:00 AM – 4:00 PM	AI Algorithms for Robotics
3.	09/04/2020 10:00 AM – 4:00 PM	Cutting-edge Research and Future Directions
4.	10/04/2020 10:00 AM – 4:00 PM	Advanced AI Techniques in Robotics
5.	11/04/2020 10:00 AM – 4:00 PM	Applications of AI in Robotics

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINNERING

Online Workshop on Trending Perspective of AI in Robotics

SYLLABUS

Sl. No	Topic
1	**Introduction to AI in Robotics** • Overview of AI and Robotics • Historical perspective and evolution • Basic concepts: Machine Learning, Deep Learning, Reinforcement Learning • Ethical considerations and societal impacts
2	**AI Algorithms for Robotics** • Perception algorithms: Computer Vision, LiDAR, Sensor Fusion • Localization and Mapping (SLAM) • Path planning and Navigation • Control algorithms: PID, MPC, Reinforcement Learning for control
3	**Cutting-edge Research and Future Directions** • State-of-the-art research in AI and Robotics • Emerging trends: Swarm robotics, Soft robotics, Bio-inspired robotics • Challenges and open problems • Opportunities for innovation and entrepreneurship
4	**Advanced AI Techniques in Robotics** • Deep Reinforcement Learning for robotics • Transfer learning and domain adaptation • Human-robot interaction • Explainable AI in robotics
5	**Applications of AI in Robotics** • Industrial robotics: Automation, Manufacturing • Service robotics: Healthcare, Hospitality, Retail • Autonomous vehicles: Cars, Drones, Underwater vehicles • Agricultural robotics: Precision farming, Harvesting robots

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

A WORKSHOP ON FAMILARIZING AI AND ROBOTICS

ENROLLED LIST

SL NO.	REG NO.	NAME
1	SNC18CS001	ADIL BIN ANWAR C P
2	SNC18CS009	ASHAMOL P R
3	SNC18CS011	BHAVYA . N
4	SNC18CS014	GOKUL RAJ K
5	SNC18CS018	MUBASHIRA
6	SNC18CS019	MUHAMMED NIHAL K V
7	SNC18CS022	NITHIN RAJ V V
8	SNC18CS024	PRANOY PRAMOD
9	SNC18CS025	P VISHNU
10	STM18CS031	RITHIKA SATHEESH BABU
11	SNC18CS030	SHIRIN MUSTHAFA P . P
12	SNC18CS031	SIDHARTH S BABU
13	SNC18CS032	SREEHARI . K
14	SNC18CS033	VISMAYA SREEJITH
15	LSNC18CS035	ANASWARA RAJAN

Event Co-ordinator

HoD

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

A WORKSHOP ON FAMILARIZING AI AND ROBOTICS

ATTENDANCE SHEET

VENUE: GOOGLE MEET **SESSION: 10:00 AM - 4:00 PM**

SL NO.	REG NO.	NAME	07-04-2020	08-04-2020	09-04-2020	10-04-2020	11-04-2020
1	SNC18CS001	ADIL BIN ANWAR C P	✓	✓	✓	✓	✓
2	SNC18CS009	ASHAMOL P R	✓	✓	✓	✓	✓
3	SNC18CS011	BHAVYA . N	✓	✓	✓	✓	✓
4	SNC18CS014	GOKUL RAJ K	✓	✓	✓	✓	✓
5	SNC18CS018	MUBASHIRA	✓	✓	✓	✓	✓
6	SNC18CS019	MUHAMMED NIHAL K V	✓	✓	✓	✓	✓
7	SNC18CS022	NITHIN RAJ V V	✓	✓	✓	✓	✓
8	SNC18CS024	PRANOY PRAMOD	✓	✓	✓	✓	✓
9	SNC18CS025	P VISHNU	✓	✓	✓	✓	✓
10	STM18CS031	RITHIKA SATHEESH BABU	✓	✓	✓	✓	✓
11	SNC18CS030	SHIRIN MUSTHAFA P . P	✓	✓	✓	✓	✓
12	SNC18CS031	SIDHARTH S BABU	✓	✓	✓	✓	✓
13	SNC18CS032	SREEHARI . K	✓	✓	✓	✓	✓
14	SNC18CS033	VISMAYA SREEJITH	✓	✓	✓	✓	✓
15	LSNC18CS035	ANASWARA RAJAN	✓	✓	✓	✓	✓

Event Co-ordinator

HoD

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINNERING

Summary Report of the Online workshop on Trending Perspective of AI in Robotics

Date: 7th April 2020 to 11th April 2020
Venue: Google Meet

The Department of Computer Science and Engineering (CSE) at Sree Narayana Guru College of Engineering and Technology (SNGCET) organized a Online workshop focusing on the "Trending Perspective of AI in Robotics" from 07/04/2020 to 11/04/2020. The Online workshop aimed to explore the intersection of artificial intelligence (AI) and robotics, highlighting the latest developments, challenges, and future prospects in this dynamic field. Mr. Sunder V and Mrs. Gripsy Paul Mannickathan ,Assistant professors, ASIET, Kaladi commenced the Online workshop with an insightful introduction to the integration of AI in robotics and the event is coordinated by Sreeraji Narayanan, Assistant Professor, SNGCET.

The speakers delved into various real-world applications where AI is transforming robotics, including autonomous vehicles, healthcare robotics, industrial automation, and smart manufacturing. They discussed recent trends such as collaborative robots (cobots), swarm robotics, and reinforcement learning algorithms enhancing robot autonomy and decision-making capabilities. provided valuable insights into the transformative potential of AI in reshaping the field of robotics. By elucidating current trends, challenges, and opportunities, the Online workshop served as a platform for knowledge sharing and collaborative discourse, fostering a deeper understanding of the intersection between AI and robotics and inspiring future innovations in this exciting domain.

The Online workshop concluded with an engaging Q&A session, where participants had the opportunity to interact with the speakers, seeking clarification on various topics discussed during the session. The exchange of ideas and perspectives further enriched the learning experience and fostered a sense of community among participants.

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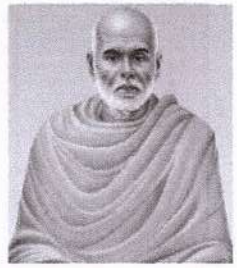

CERTIFICATE

of participation

Presented to ***ADITH VINOD , S4 CSE*** for attending five days online workshop on **TRENDING PERSPECTIVES OF AI IN ROBOTICS** conducted by the Department of Computer Science and Engineering from 07/04/2020 to 11/04/2020.

Sreeraji Narayanan
COORDINATOR

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
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Amitha I C
HOD CSE

Feedback Form for Workshop on "Trending Perspectives of AI in Robotics" (1: Low 5: High)

15 responses

Publish analytics

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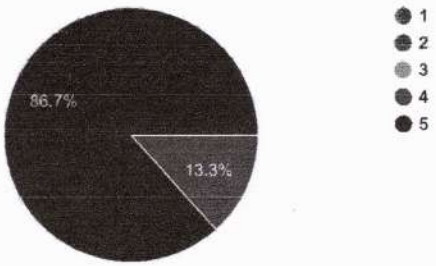
1. On a scale of 1 to 5, how would you rate the overall quality of the workshop?

15 responses



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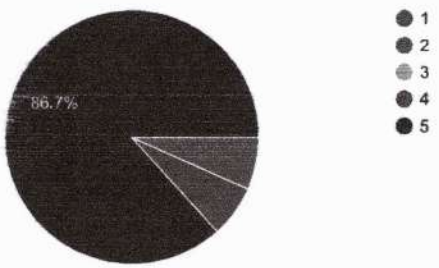
2. How would you rate the clarity of the workshop content on a scale of 1 to 5, with 5 being very clear and 1 being not clear at all?

15 responses



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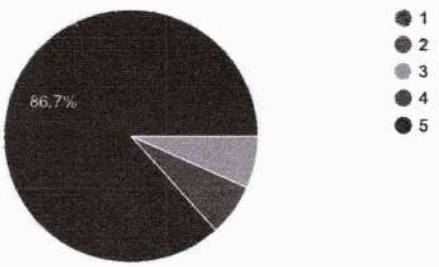
3. Please rate the relevance of the workshop content to your interests or professional needs on a scale of 1 to 5.

15 responses



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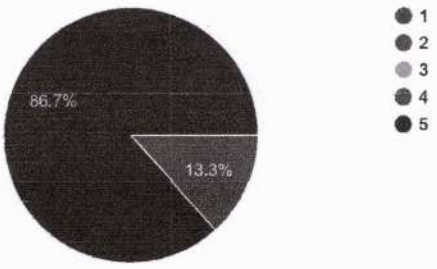
4. How would you rate the engagement level of the workshop presentation on a scale of 1 to 5?

15 responses



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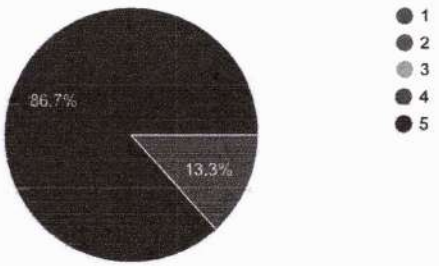
5. On a scale of 1 to 5, how informative did you find the workshop content?

15 responses



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

WEB DEVELOPMENT TECHNOLOGIES

RESOURCE PERSON

Ms.SREESHA GOVIND

Assistant Professor SNGCET

VENUE
MEETING HALL

18/02/2019- 22/02/2019
9.00 AM - 4.00 PM

EVENT COORDINATOR

Ms. SREERAJI NARAYANAN
Assistant Professor SNGCET

Dr. LEENA A. V.
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

FIVE DAY WORKSHOP ON WEB DEVELOPMENT TECHNOLOGIES

SCHEDULE

SI.No	DATE & TIME	TOPIC
1	18/02/2019 9.00 AM – 4.00 PM	Introduction to web technologies
2	19/02/2019 9.00 AM – 4.00 PM	Markup Language-HTML
3	20/02/2019 9.00 AM – 4.00 PM	CSS- Cascading Style Sheet
4	21/02/2019 9.00 AM – 4.00 PM	JavaScript
5	22/02/2019 9.00 AM – 4.00 PM	Frameworks

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

WEB DEVELOPMENT TECHNOLOGIES

A WORKSHOP ON WEB DEVELOPMENT TECHNOLOGIES

SYLLUBUS

Sl.No	TOPIC
1	Introduction to web technologies • HTML (Hypertext Markup Language) • CSS (Cascading Style Sheets) • JavaScript • Web Browsers • Web Servers
2	Markup Language-HTML • HTML-Basic rules • Syntax • DOM Structure • Tags and Meta Tags • Forms and Input Elements • Multimedia Integration (e.g., images, videos, audio) • Tables • Lists (Ordered and Unordered) • Hyperlinks and Anchors • Comments in HTML
3	CSS- Cascading Style Sheets • Selectors • CSS Box Model • Typography • Colors and Backgrounds • Layouts (e.g., Flexbox, Grid) • Responsive Design • CSS Transitions and Animations • CSS Frameworks (e.g., Bootstrap) • Media Queries • CSS Variables (Custom Properties) • Browser Compatibility
4	JavaScript • Variables and Data Types • Functions and Control Flow • Arrays and Objects • DOM Manipulation and Events • Asynchronous JavaScript and Promises
5	Frameworks • Types of Frameworks (e.g., front-end, back-end, full-stack) • Popular Front-End Frameworks (e.g., React, Angular) Popular Back-End Frameworks (e.g., Laravel, Django) • Full-Stack Frameworks • Pros and Cons of Using Frameworks • MVC (Model-View-Controller) Architecture in Frameworks

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

A WORKSHOP ON WEB DEVELOPMENT TECHNOLOGIES

NAME LIST

VENUE: MEETING HALL

SL NO.	REG NO.	NAME
1	SNC16CS001	ABHIJITH K
2	SNC16CS002	ABHINAV DIVAKARAN
3	SNC16CS004	ADARSH KUMAR O.V
4	SNC16CS005	AISWARYA AV
5	SNC16CS007	AKSHAY T
6	SNC16CS012	ASHNA RAGESH
7	SNC16CS013	ASWIN SADANAND
8	SNC16CS014	ATHULYA K P
9	SNC16CS017	EBRAHIM SAINUDHEEN
10	SNC16CS020	GOPIKA SURESHBABU P
11	SNC16CS023	JAISHNA JAYASENAN
12	SNC16CS025	MOHAMED SHUJAATH SHAFEER VT
13	SNC16CS026	MOHAMMED ANFAZ
14	SNC16CS032	P ABHIJITH MOHANAN
15	SNC16CS033	PATHMASANA K P
16	SNC16CS037	SANJANA P
17	SNC16CS042	SREELAKSHMI PV
18	SNC16CS043	VAISHAK A P
19	SNC16CS044	VARUN V
20	LSNC16CS046	VIPEESH T

Event Co-ordinator

HoD

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

WEB DEVELOPMENT TECHNOLOGIES

A WORKSHOP ON WEB DEVELOPMENT TECHNOLOGIES

ATTENDANCE SHEET

VENUE: MEETING HALL

SL NO.	REG NO.	NAME	18-02-2019	19-02-2019	20-02-2019	21-02-2019	22-02-2019
1	SNC16CS001	ABHIJITH K					
2	SNC16CS002	ABHINAV DIVAKARAN					
3	SNC16CS004	ADARSH KUMAR O.V					
4	SNC16CS005	AISWARYA AV					
5	SNC16CS007	AKSHAY T					
6	SNC16CS012	ASHNA RAGESH					
7	SNC16CS013	ASWIN SADANAND					
8	SNC16CS014	ATHULYA K P					
9	SNC16CS017	EBRAHIM SAINUDHEEN					
10	SNC16CS020	GOPIKA SURESHBABU P					
11	SNC16CS023	JAISHNA JAYASENAN					
12	SNC16CS025	MOHAMED SHUJAATH SHAFEER VT					
13	SNC16CS026	MOHAMMED ANFAZ					
14	SNC16CS032	P ABHIJITH MOHANAN					
15	SNC16CS033	PATHMASANA K P					
16	SNC16CS037	SANJANA P					
17	SNC16CS042	SREELAKSHMI PV					
18	SNC16CS043	VAISHAK A P					
19	SNC16CS044	VARUN V					
20	LSNC16CS046	VIPEESH T					

Event Co-ordinator

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINNERING

Summary Report of the Workshop on Web Development Technologies

Date: 18th February 2019 to 22th February 2019
Venue: Meeting Hall, Department of Computer Science and Engineering (CSE), Sree Narayana Guru College of Engineering and Technology (SNGCET)

The Department of Computer Science and Engineering (CSE) at Sree Narayana Guru College of Engineering and Technology (SNGCET) organized a workshop on "Web Development Technologies" from February 18th to February 22nd, 2019. The objective of this workshop was to provide students with valuable insights into various web development technologies.

The event was inaugurated by Dr. Janardhanan P V, the Principal of SNGCET, and Ms. Amitha I C, the Head of Department (HoD) of SNGCET. Ms. Shreesha Govind, Assistant Professor at SNGCET, served as the resource person for the workshop.

During the workshop, participants were introduced to fundamental concepts of web development, including HTML, CSS, JavaScript, and various frameworks and libraries. Hands-on sessions were conducted to provide practical experience in building web applications and websites.

Overall, the workshop was well-received by students, who expressed appreciation for the comprehensive coverage of topics and the opportunity to learn from experienced team members. The event concluded successfully, with students gaining valuable knowledge and skills in web development technologies.

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2018-19

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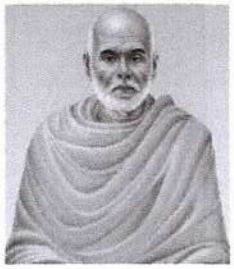

CERTIFICATE

of participation

Presented to ***ASWIN SADANAND , S6 CSE*** for attending five days Work shop on **WEB DEVELOPMENT TECHNOLOGIES** conducted by Department of Computer Science and Engineering from 18/02/2019 to 22/02/2019.

Sreeraji Narayanan
COORDINATOR

Dr. LEENA A. V.
PRINCIPAL
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Amitha I C
HOD CSE

Feedback Form for Wotkshop on Web Development Technologies (1: Low 5: High)

20 responses

Publish analytics

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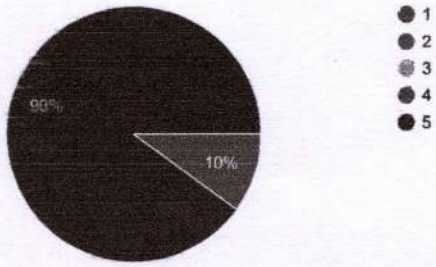
1. On a scale of 1 to 5, how would you rate the overall quality of the workshop?

20 responses



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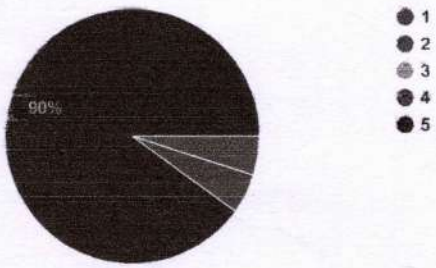
2. How would you rate the clarity of the workshop content on a scale of 1 to 5, with 5 being very clear and 1 being not clear at all?

20 responses



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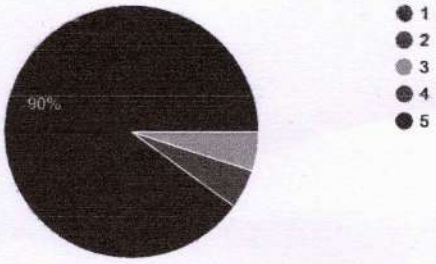
3. Please rate the relevance of the workshop content to your interests or professional needs on a scale of 1 to 5.

20 responses



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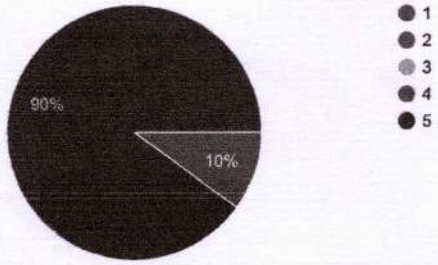
4. How would you rate the engagement level of the workshop presentation on a scale of 1 to 5?

20 responses



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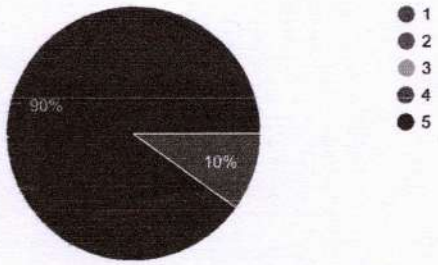
5. On a scale of 1 to 5, how informative did you find the workshop content?

20 responses



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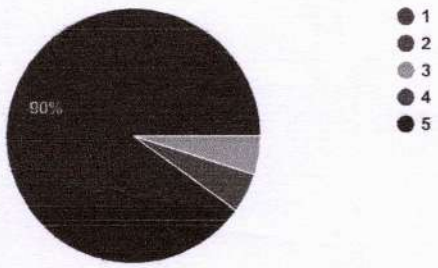
6. How would you rate the organization and structure of the workshop on a scale of 1 to 5?

20 responses



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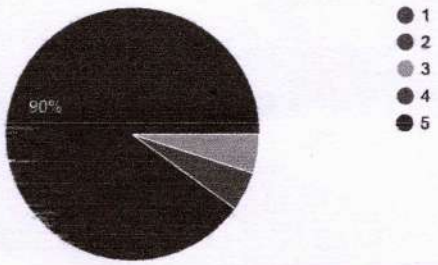
7. Please rate the effectiveness of the speakers' delivery and communication skills on a scale of 1 to 5.

20 responses



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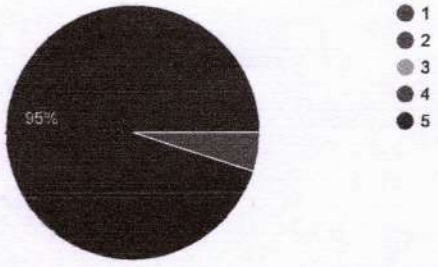
8. How likely are you to recommend this workshop to others on a scale of 1 to 5?

20 responses



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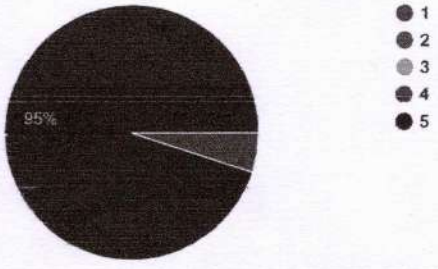
9. On a scale of 1 to 5, how well did the workshop meet your expectations?

20 responses



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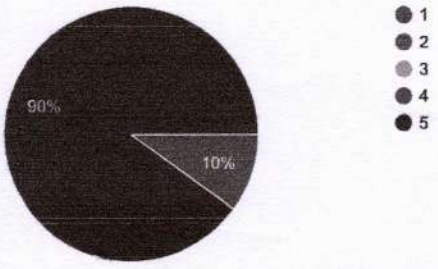
10. Overall, how satisfied are you with the workshop experience on a scale of 1 to 5?

20 responses



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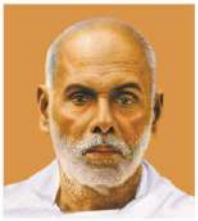

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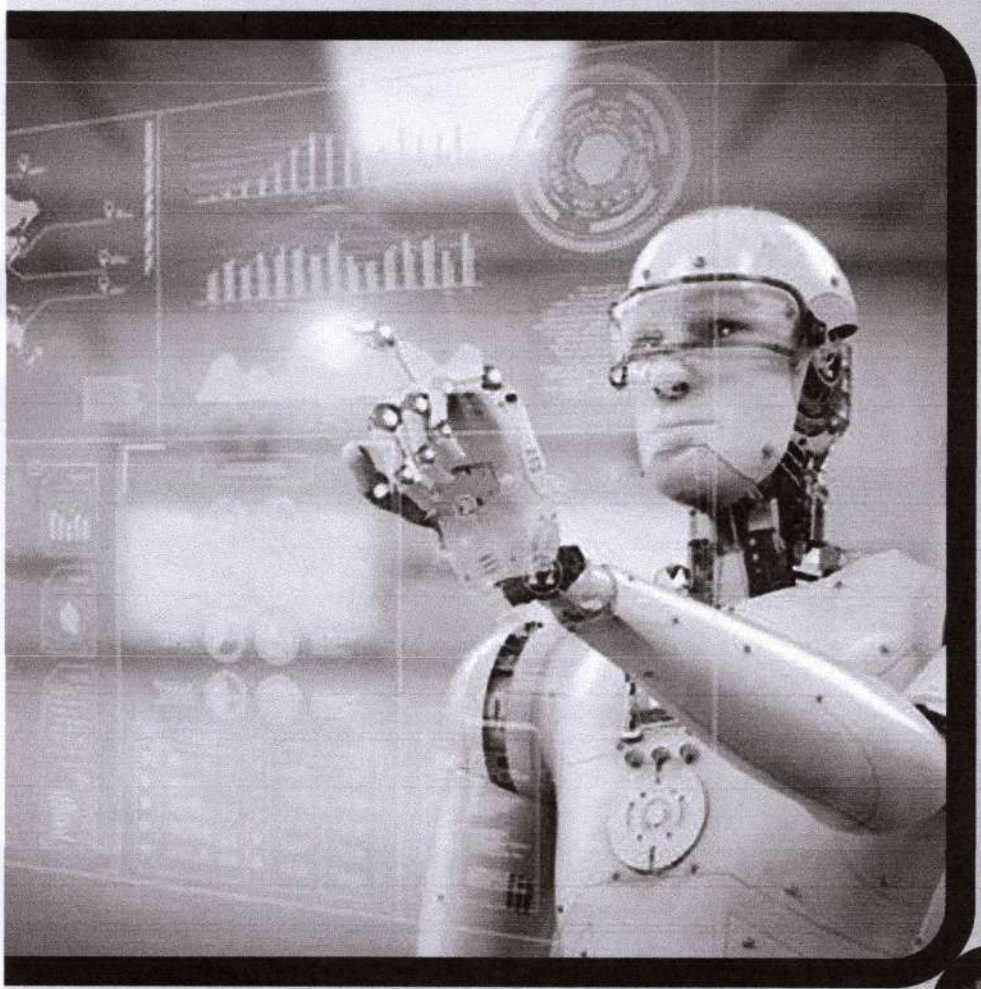
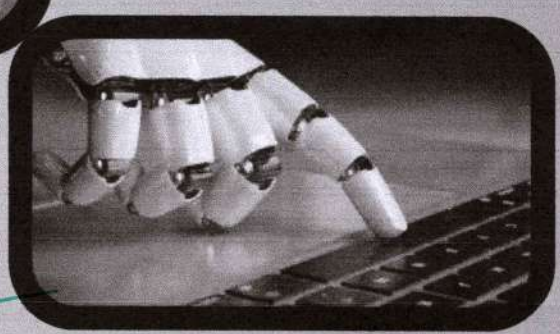
ROBOTICS WORKSHOP



02/08/2022

TO

06/08/2022



TIME: 9 AM TO 4:30 PM

VENUE: SEMINAR HALL, SNGCET

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KANNUR

Instituition Code:

SNC

For Contact:

9746044628

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ROBOTICS WORKSHOP

SCHEDULE

Sl.No	Date	Topic
1	27-06-2023 Time: 9:00am to 12:30pm & 1:30pm to 4:30pm	Introduction to Robotics and Arduino
2	28-06-2023 Time: 9:00am to 12:30pm & 1:30pm to 4:30pm	Arduino Programming Fundamentals
3	29-06-2023 Time: 9:00am to 12:30pm & 1:30pm to 4:30pm	Sensor Integration with Arduino
4	30-06-2023 Time: 9:00am to 12:30pm & 1:30pm to 4:30pm	Actuator Control with Arduino
5	1-07-2023 Time: 9:00am to 12:30pm & 1:30pm to 4:30pm	Robotics Project and Advanced Concepts

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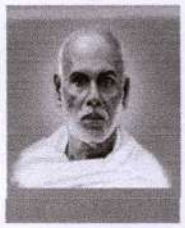

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ROBOTICS WORKSHOP

SYLLABUS

Sl.No	Topic
1	Introduction to Robotics and Arduino • Overview of Robotics and its applications • Introduction to Arduino boards and their features • Installing Arduino IDE and configuring boards • Basic Arduino programming concepts (variables, data types, loops)
2	Arduino Programming Fundamentals • Control structures (if, else, switch) • Functions and modular programming • Arrays and strings in Arduino programming • Analog and digital input/output
3	Sensor Integration with Arduino • Introduction to sensors (e.g., light sensors, temperature sensors) • Connecting sensors to Arduino • Reading sensor data and processing • Hands-on: Interfacing LEDs and basic sensors
4	Actuator Control with Arduino • Introduction to actuators (e.g., motors, servos) • Connecting actuators to Arduino PWM (Pulse Width Modulation) for motor control • Hands-on: Controlling motors and servos with Arduino
5	Robotics Project and Advanced Concepts • Integration of sensors and actuators into a robotics project • Project development using Arduino Troubleshooting and debugging • Advanced Arduino concepts (interrupts, communication protocols) • Project presentation and discussionDevelop the project using Embedded C and C++ • Hands-on debugging and testing

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ROBOTICS WORKSHOP

	• Project presentation and feedback session

Assessment Criteria:
Short quizzes and assessments throughout the workshop Participation in hands-on exercises.

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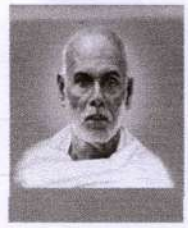

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

STUDENTS LIST

Sl.No	Name
1	ATHUL S
2	ANUSREE N
3	AKARSH KRISHNA
4	YUVN SHANKAR
5	SINI MOL PP
6	SNEHA T
7	VARADA B
8	LAKSHMI
9	HARISREE K
10	DIYA M
11	ZAHA FATHIMA
12	SREEHARI TV
13	AKASH KRISHANAN
14	SIDHI T
15	ARADHYA SURESH
16	ASWATHI P
17	SHAMNAS S
18	AARYA M S
19	FATHIMATHUL FIDA P K
20	JAGAN MOHAN
21	MOHAMMED NAAZ
22	THANYA M S

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23	**FATHIMATHUL NIDHA P**
24	**SREELAKSHMI C**
25	**ANUSREE TK**
26	**MALAVIIKA P**
27	**SHREYA S**
28	**NI, ISHA SAJEEV**
29	**MEGHANA S**
30	**KEERTHI T**

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ATTENDANCE SHEET

DAY 1.

Sl.No	NAME	SIGN
1	Athul S.	
2	Anusree N	
3	Akarsh krishna	
4	Yuvan Shankar	
5	Sinimol P.P	
6	Sneha T	
7	Varada. B	
8	Lakshmi Y.	
9	Hari Sree K.	
10	Diya M.	
11	Zaha fathima	
12	Sreehari T.V	
13	AKASH. KRISHNAN	
14	Sidhi. T	
15 16	ARADHYA SURESH	
17	Aswathi P	
18	Shamnas. S	
19	Aarya. M.S	
20	Fathimathul fida. P.K	
21	JAGAN MOHAN	
22	Mohammed Nasr	
23	Thanya. M.S	
24	Fathimathul Nidha. P.K	
25	Sreelakshmi.C	
26	Aqmee.T.K	
27	Malavika. P	Mala Viko
28	Shreeja. S	
29	Nimish Sajeev.	
30	Meghana. S	Meghna. S
31	Kavithi. T	

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ATTENDANCE SHEET

DAY 2

SL NO	NAME	SIGN
1	ATHUL S	
2	ANUSREE N	
3	AKARSH KRISHNA	
4	YUVN SHANKAR	
5	SINI MOL P P	
6	SNEHA T	
7	VARADA B	
8	LAKSHMI	
9	HARISREE K	
10	DIYA M	
11	ZAHA FATHIMA	
12	SREEHARI TV	
13	AKASH KRISHANAN	
14	SIDHI T	
15	ARADHYA SURESH	
16	ASWATHI P	
17	SHAMNAS S	
18	AARYA M S	
19	FATHIMATHUL FIDA P K	
20	JAGAN MOHAN	
21	MOHAMMED NAAZ	
22	THANYA M S	
23	FATHIMATHUL NIDHA P	
24	SREELAKSHMI C	
25	ANUSREE T K	
26	MALAVIIKA P	
27	SHREYA S	
28	NI,ISHA SAJEEV	
29	MEGHANA S	
30	KEERTHI T	

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DAY 3

SL NO	NAME	SIGN
1	ATHUL S	
2	ANUSREE N	
3	AKARSH KRISHNA	
4	YUVN SHANKAR	
5	SINI MOL P P	
6	SNEHA T	
7	VARADA B	
8	LAKSHMI	
9	HARISREE K	
10	DIYA M	
11	ZAHA FATHIMA	
12	SREEHARI TV	
13	AKASH KRISHANAN	
14	SIDHI T	
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16	ASWATHI P	
17	SHAMNAS S	
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19	FATHIMATHUL FIDA P K	
20	JAGAN MOHAN	
21	MOHAMMED NAAZ	
22	THANYA M S	
23	FATHIMATHUL NIDHA P	
24	SREELAKSHMI C	
25	ANUSREE T K	
26	MALAVIIKA P	
27	SHREYA S	
28	NIHSHA SAJEEV	
29	MEGHANA S	
30	KEERTHI T	

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DAY 4

SL NO	NAME	SIGN
1	ATHUL S	
2	ANUSREE N	
3	AKARSH KRISHNA	
4	YUVN SHANKAR	
5	SINI MOL P P	
6	SNEHA T	
7	VARADA B	
8	LAKSHMI	
9	HARISREE K	
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DAY 5

SL NO	NAME	SIGN
1	ATHUL S	
2	ANUSREE N	
3	AKARSH KRISHNA	
4	YUVN SHANKAR	
5	SINI MOL P P	
6	SNEHA T	
7	VARADA B	
8	LAKSHMI	
9	HARISREE K	
10	DIYA M	
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ROBOTICS WORKSHOP

The Department of Electronics and Communication Engineering at Sree Narayana Guru College of Engineering and Technology conducted a robotics workshop for Plus Two students on 02.08.2022 to 06.08.2022. This workshop aimed to provide participants with a comprehensive introduction to robotics, emphasizing Arduino programming and the creation of line-following robots. The event was an overwhelming success, fostering enthusiasm among the students and providing them with invaluable skills and knowledge.

The workshop began with a warm welcome by Leena Narayanan, AP ECE who introduced the participants to the objectives of the workshop, the importance of electronics and robotics, and the exciting prospects of pursuing careers in these fields. The first part of the lesson introduced students to the world of Arduino programming. They gained knowledge of Arduino boards, fundamental programming concepts, and how to connect LEDs, sensors, and actuators to the Arduino platform. The practical portion of the workshop, in which students were charged with creating their own line-following robots, was one of its standout features. The participants meticulously built and programmed their robots under the direction of skilled teachers using kits that contained sensors, motors, and Arduino boards.

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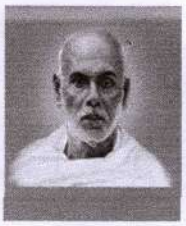

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The session gave Plus Two pupils an invaluable educational opportunity and sparked their interest in robotics, electronics, and programming. The program was essential in igniting the interest in robotic fields among young engineers.

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CERTIFICATE

ROBOTICS WORKSHOP

THIS CERTIFICATE IS ISSUED TO ***MS.SNEHA T*** FOR PARTICIPATING THE 5 DAYS **ROBOTICS WORKSHOP** AT **SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY** FROM 02/08/2022 -06/08/2022

CO-ORDINATOR

HOD

PRINCIPAL

Dr. LEENA A. V.
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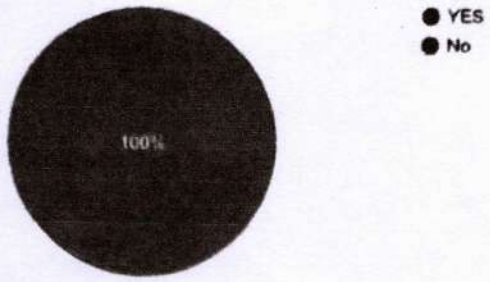
ROBOTICS WORKSHOP

8 responses

Publish analytics

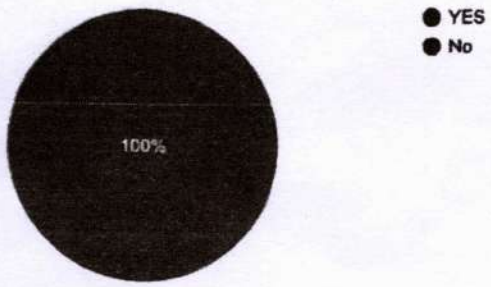
Were the workshop materials and content relevant to your expectations and needs? Copy

8 responses



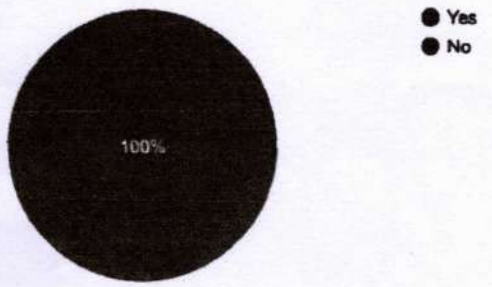
Did the instructors encourage questions and provide clear explanations? Copy

8 responses



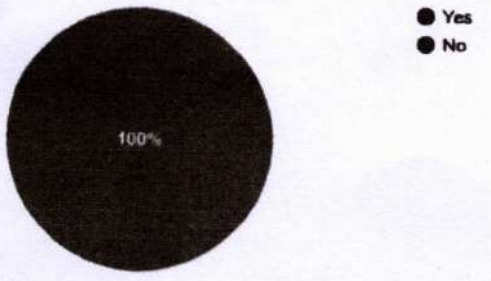
Were the instructions for the hands-on activities clear and easy to follow? Copy

8 responses



Did you feel a sense of community or teamwork during the workshop? Copy

8 responses



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How would you rate the knowledge and expertise of the instructors?

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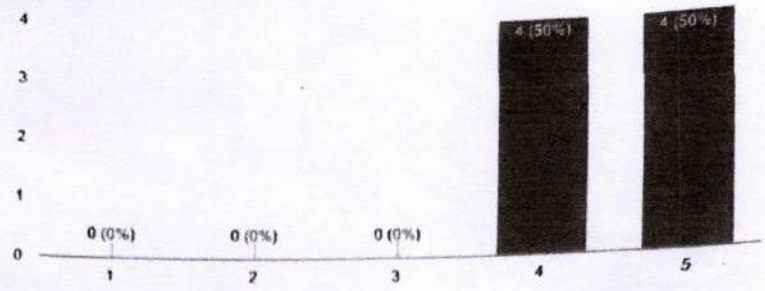
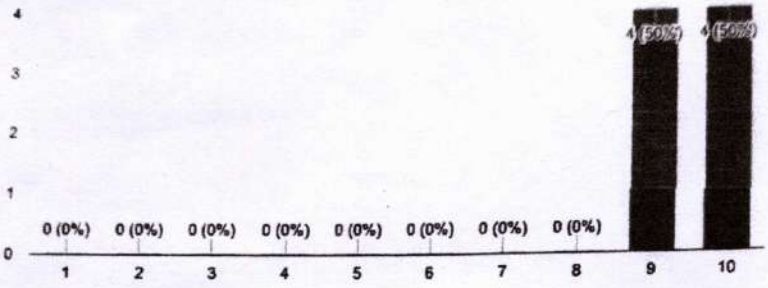
8 responses



On a scale of 1 to 10, how would you rate your overall experience in this robotics workshop?

Copy

8 responses



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KANNUR

Sree Narayana Guru College of Engineering & Technology

CHALAKKODE P.O., KOROM, PAYYANUR, KANNUR-670 307

Department of Electronics and Communication Engineering

5 DAYS WORKSHOP ON

ARDUINO BASICS WITH HANDS ON TRAINING

06/06/2022
TO
10/06/2022

TIME: 9 AM TO 4:30 PM

VENUE: SEMINAR HALL, SNGCE

Instituition Code:
SNC

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHEDULE

DATE	TIME	TOPICS
06/06/2022	9.00 am to 12.30 pm	Introduction to Arduino Basic Electronics Components
	1.30pm to 4.30 pm	Introduction to Breadboards
07/06/2022	9.00 am to 12.30 pm	Hands-on Arduino Basics Hands-on Activity: Blinking an LED Serial Communication
	1.00 pm to 4.30 pm	Introduction to Sensors Reading Analog Sensor Data
08/06/2022	9.00 am to 12.30 pm	Introduction to Actuators Hands-on Activity:Controlling a DC Motor
	1.30pm to 4.30 pm	Introduction to Pulse Width Modulation (PWM)
09/06/2022	9.00 am to 12.30 pm	Serial Communication Functions and Libraries
	1.30pm to 4.30 pm	Troubleshooting and Debugging
10/06/2022	9.00 am to 12.30 pm	Project Planning and Implementation
	1.30pm to 4.30 pm	Project Presentation

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SYLLABUS

Introduction to Arduino	History and background.Overview of Arduino boards (Uno, Nano, Mega, etc.).Applications of Arduino in various fields (IoT, robotics, automation, etc.)
Basic Electronics Components	Explanation of fundamental components.Resistors, capacitors, LEDs, pushbuttons, etc.Understanding component specifications (resistance, capacitance, voltage ratings, etc.) Safety precautions in handling electronic components
Introduction to Breadboards	Explanation of breadboard layout and connections.Hands-on activity: Building simple circuits on a breadboard
Hands-on Arduino Basics	Introduction to Arduino IDE (Integrated Development Environment) Setting up Arduino IDE on participants system.Uploading a simple "Hello World" program to Arduino board.Understanding the basic structure of an Arduino sketch (setup() and loop() functions)
Hands-on Activity: Blinking an LED	Wiring an LED to Arduino board.Writing a program to blink the LED on and off.Uploading and testing the program on Arduino board
Serial Communication	Introduction to serial communication and its importance in Arduino projects. Sending data from Arduino to computer via serial monitor .Reading data from serial monitor
Introduction to Sensors	Overview of common sensors used with Arduino (temperature, humidity, light, motion, etc.).Working principles of sensors.Hands-on activity: Interfacing a temperature sensor with Arduino
Reading Analog Sensor Data	Understanding analog-to-digital conversion (ADC).Reading analog sensor data using Arduino .Calibrating sensors and mapping sensor values
Introduction to Actuators	Overview of different types of actuators (motors, servos, relays, etc.). Working principles and applications of actuators
Hands-on Activity:Controlling a DC Motor	Introduction to motor drivers and H-bridge circuits.Wiring and controlling a DC motor using Arduino
Introduction to Pulse Width Modulation (PWM)	Explanation of PWM and its application in motor speed control.Hands-on activity: Controlling motor speed using PWM signals
Serial Communication	Review of serial communication basics.Hands-on activity: Implementing two-way communication between Arduino and computer
Functions and	Introduction to functions in Arduino programming. Writing and using

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Libraries	custom functions. Introduction to Arduino libraries and their usage
Troubleshooting and Debugging	Common programming errors and hardware issues. Strategies for troubleshooting and debugging Arduino projects. Hands-on activity: Identifying and fixing common errors in sample projects
Project Planning and Implementation	Brainstorming and planning individual or group projects. Gathering required components and materials Building and testing projects with guidance from instructors
Project Presentation	Each participant/group demonstrates their project to the rest of the workshop attendees. Explanation of project concept, components used, and functionality. Q&A session and feedback from instructors and peers

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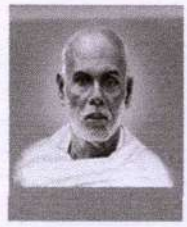

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

STUDENTS LIST

Sl.No	Name
1	ADITH SURYA
2	AKSHAY P
3	ANGEL MARY
4	ANN MARIYA
5	ABHILASH CK
6	AKASH B
7	ABAY DEV
8	AKHIL K
9	ASWATHI C
10	ANU M
11	DHRUV D K
12	JIJITH P K
13	RENJITH K
14	RONNY K
15	RAHUL K K
16	REMYA B
17	RASHA FATHIMA K
18	NASLA FATHIMA P V
19	SANVI SARATH
20	SUSAN SAM
21	SUDHIN C P
22	SOUJISHA KK

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23	SHAHASAD
24	SUNISH
25	SISIRA SREEKUMAR
26	SHIVARANJINI
27	KARTIK
28	ATHUL KUMAR
29	AJAY P K

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

Five Days Workshop On Arduino Basics With Hands on Training

ATTENDANCE SHEET

Sl.No	NAME	SIGN
1	Adith Surya	
2	Akshay P	
3	Angel Mary	
4	Raska Fathima. k.	
5	Sanvi Sharath	
6	Nasla Fathima. P. V	
7	Ann Maria	
8	Susan Sam	
9	Sudhin C.P	
10	Soumya. K.	
11	Abhilash C.K	
12	Akash. B	
13	Remya. B	
14	Sivasanjini	
15	KARTHIK	
16	Rahul. K.K	
17	Abhay Dev.	
18	Dhruv AK	
19	Athul kumar	
20	Akhil. k	
21	Jijith. P.K	
22	Shahazad	
23	Sanish	
24	Sisira Sreekumar	
25	Ronny. k	
26	Ajay. P K	
27	Aswathi. C	
28	Anu M	
29	Ranjith. K.	
30		

Leena

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Five Days Workshop on Arduino Basics with Hands on Training.

ATTENDANCE SHEET

DAY 2

SL NO	NAME	SIGN
1	ADITH SURYA	
2	AKSHAY P	
3	ANGEL MARY	
4	ANN MARIYA	
5	ABHILASH C K	
6	AKASH B	
7	ABAY DEV	
8	AKHIL K	
9	ASWATHI C	
10	ANU M	
11	DHRUV D K	
12	JIJITH P K	
13	RENJITH K	
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15	RAHUL K K	
16	REMYA B	
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18	NASLA FATHIMA P V	
19	SANVI SARATH	
20	SUSAN SAM	
21	SUDHIN C P	
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23	SHAHASAD	
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ATTENDANCE SHEET

DAY 3

SL NO	NAME	SIGN
1	ADITH SURYA	
2	AKSHAY P	
3	ANGEL MARY	
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5	ABHILASH C K	
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Five Days Workshop on Arduino Basics with Hands on Training

ATTENDANCE SHEET

DAY 4

SL NO	NAME	SIGN
1	ADITH SURYA	
2	AKSHAY P	
3	ANGEL MARY	
4	ANN MARIYA	
5	ABHILASH C K	
6	AKASH B	
7	ABAY DEV	
8	AKHIL K	
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ATTENDANCE SHEET

DAY 5

SL NO	NAME	SIGN
1	ADITH SURYA	
2	AKSHAY P	
3	ANGEL MARY	
4	ANN MARIYA	
5	ABHILASH C K	
6	AKASH B	
7	ABAY DEV	
8	AKHIL K	
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Report on Five Days Workshop on Arduino Basics with Hands-On Training

Date: June 6th, 2022 - June 10th, 2022

The Department of Electronics and Communication Engineering of SNGCET Payyanur organized a comprehensive five-day workshop aimed at introducing plus two pass students to the fundamentals of Arduino programming and basic electronics. The workshop, conducted from June 6th to June 10th, 2022, served to foster interest in electronics and provide hands-on experience with Arduino, a popular open-source hardware and software platform. Ms. Meera M and Ms. Leena Narayanan led the instructional sessions, while Mr. Shahith P. conducted the hands-on sessions, ensuring a balanced approach to theoretical learning and practical application.

Workshop Objectives:

1. Introduce students to the basics of Arduino and its applications in various fields.
2. Provide hands-on experience in building circuits and programming with Arduino.
3. Foster interest in electronics and inspire students to explore further studies or careers in the field.
4. Raise awareness about advanced technologies and their potential impact on society and industries.

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The workshop commenced with an introductory session led by Ms. Meera M and Ms. Leena Narayanan, providing an overview of Arduino, its history, and its applications. Basic electronic components such as resistors, LEDs, and breadboards were introduced, along with safety precautions. Participants were guided through setting up the Arduino IDE and uploading a simple sketch to the Arduino board. A hands-on activity involved blinking an LED to demonstrate basic programming concepts.

Ms. Meera M and Ms. Leena Narayanan delved into the world of sensors and actuators, discussing their types, working principles, and applications. Participants learned to interface temperature sensors with Arduino and read analog sensor data. The session also covered actuators, including DC motors and servos, with a focus on controlling motor speed using PWM signals. Hands-on activities enabled participants to gain practical experience in sensor interfacing and motor control.

On the third day, Ms. Meera M and Ms. Leena Narayanan explored communication protocols such as serial communication. The importance of serial communication in Arduino projects was emphasized, followed by practical demonstrations of interfacing Arduino Wireless communication technologies, including Bluetooth and Wi-Fi, were introduced, broadening participants' understanding of communication protocols and their applications.

The focus of the fourth day was on advanced Arduino programming concepts, led by Ms. Meera M and Ms. Leena Narayanan. Participants learned about functions, libraries, and their usage in Arduino programming, followed by practical exercises in integrating third-party libraries for additional functionality. Troubleshooting and debugging techniques were demonstrated, with hands-on practice to identify and fix common errors in Arduino projects.

The final day of the workshop was dedicated to project building and presentation. Under the guidance of Ms. Meera M, Ms. Leena Narayanan, and Mr. Shahith P., participants worked on individual or group projects, applying the knowledge and skills acquired during the workshop. Assistance and support were provided as needed to ensure successful project completion. In the afternoon

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session, participants presented their projects, showcasing their creativity and technical prowess. The presentations were followed by feedback and discussions, allowing participants to reflect on their work and learn from each other's experiences.

The Arduino workshop conducted by the Department of Electronics and Communication Engineering at SNGCET Payyanur was a resounding success, achieving its objectives of introducing students to Arduino programming and basic electronics while fostering interest in the field. Through a combination of theoretical lectures, hands-on activities, and project-based learning, participants gained valuable skills and practical experience, paving the way for further exploration and growth in the field of electronics. Special thanks to Ms. Meera M, Ms. Leena Narayanan, and Mr. Shahith P. for their dedication and expertise in delivering an enriching learning experience.

Participant feedback was overwhelmingly positive, with many expressing their appreciation for the workshop's interactive and engaging format. Participants praised the instructors for their clear explanations and hands-on approach, stating that they felt more confident in working with Arduino and electronics after attending the workshop. Several participants expressed their desire to pursue further studies or careers in electronics and related fields, indicating the workshop's success in inspiring and motivating them to explore new opportunities.

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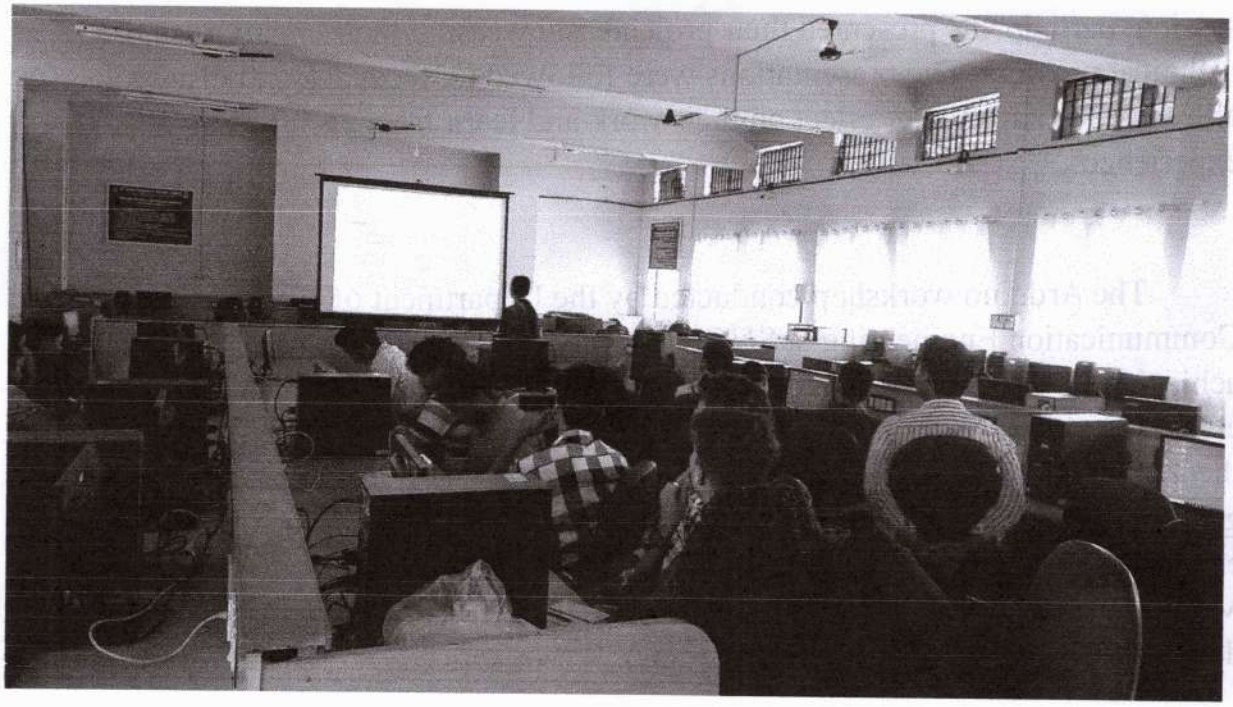

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WORKSHOP ON ARDUINO BASICS WITH HANDS ON TRAINING

CERTIFICATE OF PARTICIPATION

This Certificate is issued to Ms.Anu M for participating in the Five Days Workshop on Arduino Basics with Hands on Training at Sree Narayana Guru College of Engineering & Technology from 06/06/2022 to 10/06/2022

MS.LEENA NARAYANAN
COORDINATOR

MR.K RAVEENDRAN
HOD,ECE

DR.LEENA A V
PRINCIPAL

Dr. LEENA A. V.
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WORKSHOP ON ARDUINO BASICS WITH HANDS ON TRAINING

8 responses

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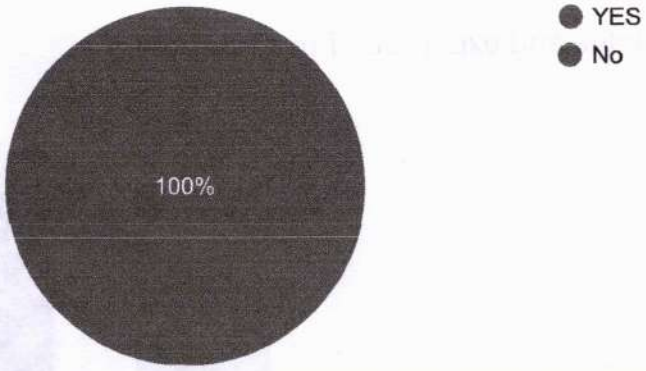
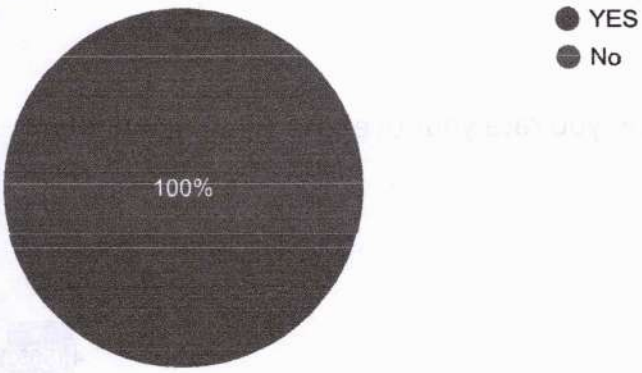
Were the workshop materials and content relevant to your expectations and needs? Copy

8 responses



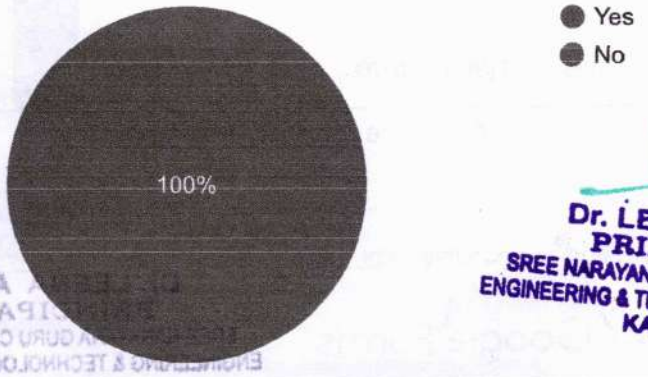
Did the instructors encourage questions and provide clear explanations? Copy

8 responses



Were the instructions for the hands-on activities clear and easy to follow? Copy

8 responses



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Did you feel a sense of community or teamwork during the workshop? Copy

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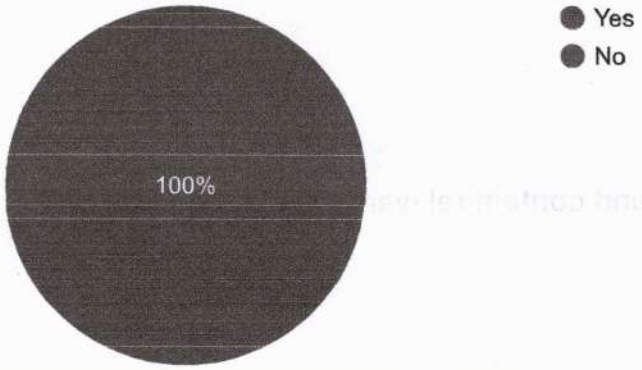
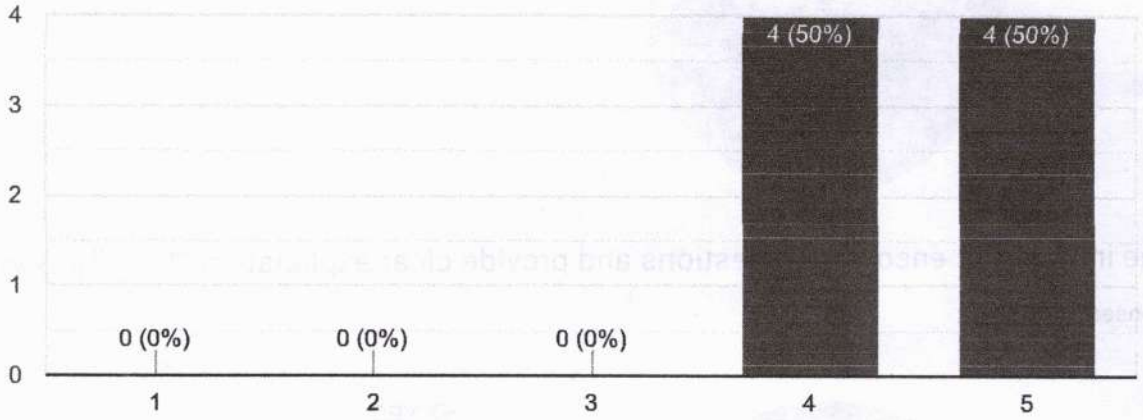


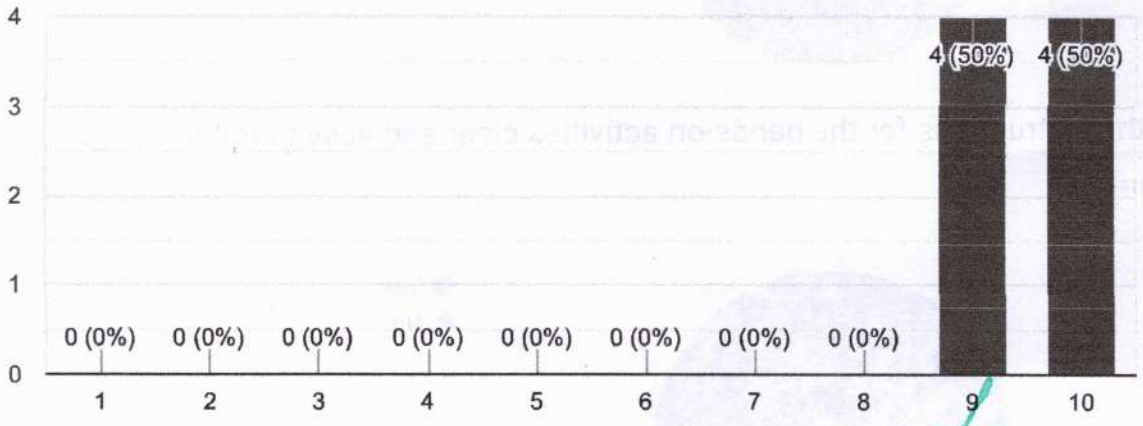
How would you rate the knowledge and expertise of the instructors? Copy

8 responses



On a scale of 1 to 10, how would you rate your overall experience in this workshop? Copy

8 responses



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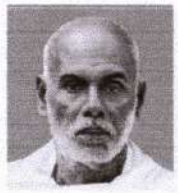

Department of Electronics and Communication Engineering

IoT| Workshop on Internet of Things using Arduino, Raspberry Pi & MQTT

24/05/2021
to
28/05/2021

9 am to 4:30 pm

Institution Code
SNC

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For Enquiry:
949533628

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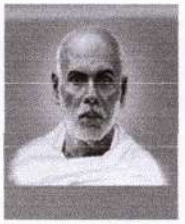

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IoT | Workshop on Internet of Things using Arduino, RaspberryPi & MQTT

SCHEDULE

Sl.No	Date	Topic
1	**24-05-2021** Time: 9:00am to 12:30pm & 1:30pm to 4:00pm	Introduction to the Internet of Things, Cloud Computing, The Arduino Open-Microcontroller Platform and Arduino Basics
2	**25-05-2021** Time: 9:00am to 12:30pm & 1:30pm to 4:00pm	Integrating Ethernet Module & Testing DHCP Connection, Make Electronics Gadget Talk to Internet, Integrating Ethernet Module
3	**26-05-2021** Time: 9:00am to 12:30pm & 1:30pm to 4:00pm	Versions of Raspberry Pi & Their Difference
4	**27-05-2021** Time: 9:00am to 12:30pm & 1:30pm to 4:00pm	Introduction to Raspberry Pi and Android
5	**28-05-2021** Time: 9:00am to 12:30pm & 1:30pm to 4:00pm	Understanding MQTT & HTTP

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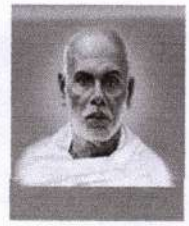

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IoT | Workshop on Internet of Things using Arduino, RaspberryPi & MQTT

SYLLABUS

Sl.No	Topic
1	Introduction to the Internet of Things The Internet of Things The Basics of Sensors & Actuators Introduction to Cloud Computing * The Arduino Platform The Arduino Open-Microcontroller Platform Arduino Basics Arduino Board Layout & Architecture * Reading from Sensors * Programming fundamentals (C language) * Arduino Programming & Interface of Sensors Interfacing sensors with Arduino Programming Arduino Reading from Sensors
2	• Integrating Ethernet Module & Testing DHCP Connection • Creating Program for Localhost Web Server for controlling devices. • Being Social on Twitter & update status on Twitter through Arduino • Make Electronics Gadget Talk to Internet • Integrating Ethernet Module • Creating App on Twitter • Send Voltage & Analog Data on Cloud Server. • Cloud Computing • Communicating with the Cloud using Web Services. • Cloud Computing & IOT. • Popular Cloud Computing Services for Sensor Management.
3	The Internet of Things • The Basics of Sensors & Actuators

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PAYYANUR

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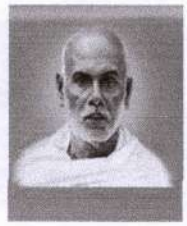

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IoT | Workshop on Internet of Things using Arduino, RaspberryPi & MQTT

	• Introduction to Cloud Computing • Understanding and Introduction to R Pi • What is SOC? • Versions of Raspberry Pi & Their Difference • Raspberry Pi 3 • Basics of Electronics • Hardware Description • Pin Configuration • OS Installation on SD Card
4	• Talking to your Android Phone with Raspberry Pi • Connecting Raspberry Pi with Mobile Device. • The Android Mobile OS. • Using the Bluetooth Module
5	• Understanding MQTT • Difference between HTTP & MQTT • Understanding MQTT Broker • Understating Publish & Subscribe Methods

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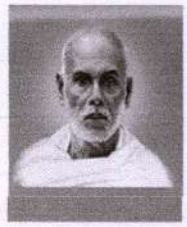

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

STUDENTS LIST

Sl.No	Name
1.	ABHISHEK C
2.	MUBASHIR K C
3.	ABHIJITH J
4.	NANDANA K P
5.	SMEYA SAJITH
6.	FAIHA ROUF
7.	ABHIRAG P
8.	MUHAMMED RAZI VK
9.	AGRAJ M
10.	GOPIKA V
11.	MANJUSH PREM KUMAR
12.	ARJUN A J
13.	AJMAL A K
14.	AMARNATH BALAN C
15.	ANUSRUTHI K MANOJ
16.	ARYAN SREEJESH
17.	ANUVIND NK
18.	ABHISHEK M
19.	MUHAMMED ADIL
20.	MUHAMMED AMAN
21.	ABHIJITH KUMAR A S
22.	ASWIN P S

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23.	ATHUL MOHAN
24.	SARANG S HARI
25.	AKRSH KRISHNA
26.	SABIN M
27.	NANDU KRISHNA
28.	MUHAMMED SHAMMAS K
29.	MUHAMMED SABITH
30.	MUHAMMED FAHAD MP
31.	SREYAS MANOHARAN
32.	JUGAL DEV
33.	ANURAG CP
34.	ABHINAV PP
35.	HIMA SUJESH R K
36.	FATHIMATH RASHA
37.	SREYA M
38.	P SOUPARNIKA
39.	VISMAYA VINOD K
40.	SWEJA P

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DEPARTMENT OF ELECTRONICS &COMMUNICATION ENGINEERING

Day 1

PARTICIPANTS LIST IN IOT WORKSHOP

Sl. No.	Name	Signature
1	ABHISHEK C	
2	MUBASHIR K C	
3	ABHIJITH J	
4	NANDANA K P	
5	SMEYA SAJITH	
6	FAIHA ROUF	
7	ABHIRAG P	
8	MUHAMMED RAZI V K	
9	AGRAJ M	
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13	AJMAL A K	
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16	ARYAN SREEJESH	
17	ANUVIND N K	
18	ABHISHEK M	
19	MUHAMMED ADIL	
20	MUHAMMED AMAN	
21	ABHIJITH KUMAR A S	
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27	NANDU KRISHNA	
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30	MUHAMMED FAHAD M P	
31	SREYAS MANOHARAN	
32	JUGAL DEV	
33	ANURAG C P	
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IOT WORKSHOP

ATTENDANCE SHEET

Day 2

SL NO	NAME	SIGNATURE
1	ABHISHEK C	
2	MUBHASHIR K C	
3	ABHIJITH J	
4	NANDANAK P	
5	SMEYA SAJITH	
6	FAIHA ROUF	
7	ABHIRAG P	
8	MUHAMMED RAZI V K	
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31	SREYAS MANOHARAN	

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32	JUGAL DEV	
33	ANURAG C P	
34	ABHINAV P P	
35	HIMA SUJESH R K	
36	FATHIMATH RASHA	
37	SREYA M	
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IOT WORKSHOP

ATTENDANCE SHEET

Day 3

SL NO	NAME	SIGNATURE
1	ABHISHEK C	
2	MUBHASHIR K C	
3	ABHIJITH J	
4	NANDANAK P	
5	SMEYA SAJITH	
6	FAIHA ROUF	
7	ABHIRAG P	
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9	AGRAJ M	
10	GOPIKA V	
11	MANJUSH PREM KUMAR	
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IOT WORKSHOP

ATTENDANCE SHEET

Day 4

SL NO	NAME	SIGNATURE
1	ABHISHEK C	
2	MUBHASHIR K C	
3	ABHIJITH J	
4	NANDANAK P	
5	SMEYA SAJITH	
6	FAIHA ROUF	
7	ABHIRAG P	
8	MUHAMMED RAZI V K	
9	AGRAJ M	
10	GOPIKA V	
11	MANJUSH PREM KUMAR	
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32	JUGAL DEV	
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IOT WORKSHOP

ATTENDANCE SHEET

Day 5

SL NO	NAME	SIGNATURE
1	ABHISHEK C	
2	MUBHASHIR K C	
3	ABHIJITH J	
4	NANDANAK P	
5	SMEYA SAJITH	
6	FAIHA ROUF	
7	ABHIRAG P	
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

IoT | Workshop on Internet of Things using Arduino, RaspberryPi & MQTT

The Department of Electronics and Communication Engineering at Sree Narayana Guru College of Engineering and Technology conducted a IoT | Workshop on Internet of Things using Arduino, RaspberryPi & MQTT workshop for Plus Two students on 24.05.2021 to 28-05-2021. This workshop aimed to provide participants with a comprehensive introduction to robotics, emphasizing Arduino programming and the creation of line-following robots. The event was an overwhelming success, fostering enthusiasm among the students and providing them with invaluable skills and knowledge.

In the rapidly advancing technological landscape, the field of IOT plays a pivotal role. To instill a passion for electronics, programming, and robotics among Plus Two students, the Department of Electronics and Communication Engineering organized an immersive one-day workshop. This workshop encompassed a wide range of sessions, hands-on activities, and demonstrations to impart practical insights into the world of IOT.

The workshop began with a warm welcome by Prof. Raveendran K, HoD, ECE who introduced the participants to the objectives of the workshop, the importance of electronics and IOT, and the exciting prospects of pursuing careers in these fields.

The first part of the lesson was given by Raveendran K, introduced students to the world of Arduino programming. They gained knowledge of Arduino Board Layout & Architecture Reading from Sensors Programming fundamentals (C language), Arduino Programming & Interface of Sensors, Interfacing sensors with Arduino Programming, Arduino Reading from Sensors.

They improved their coding abilities, sharpened their problem-solving abilities, and discovered how to use Arduino to control various electronic components. The second day program was handled by Leena Narayanan which includes Integrating Ethernet Module &

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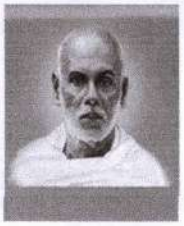

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Testing DHCP Connection, Creating Program for Localhost Web Server for controlling devices. Being Social on Twitter & update status on Twitter through Arduino, Make Electronics Gadget Talk to Internet, Integrating Ethernet Module.

The third day includes practical sessions based on Raspberry Pi. The further day students learned about Understanding MQTT, Difference between HTTP & MQTT, Understanding MQTT Broker, and Understating Publish & Subscribe Methods.

The practical portion of the workshop was handled by lab staffs, in which students were charged with creating their own line-following robots, was one of its standout features. The participants meticulously built and programmed their robots under the direction of skilled teachers using kits that contained sensors, motors, and Arduino boards.

The session gave Plus Two pupils an invaluable educational opportunity and sparked their interest in robotics, electronics, and programming. The program was essential in igniting the interest in IOT fields among young engineers.

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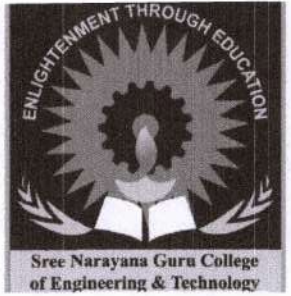

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CERTIFICATE

Of Appreciation

This certificate is presented to

Arjun A J

for participating in the five days **IoT|Workshop on Internet of Things using Arduino, Raspberry Pi & MQTT** at Sree Narayana Guru College of Engineering & Technology from 24/05/2021 to 28/05/2021

COORDINATOR

HOD

PRINCIPAL

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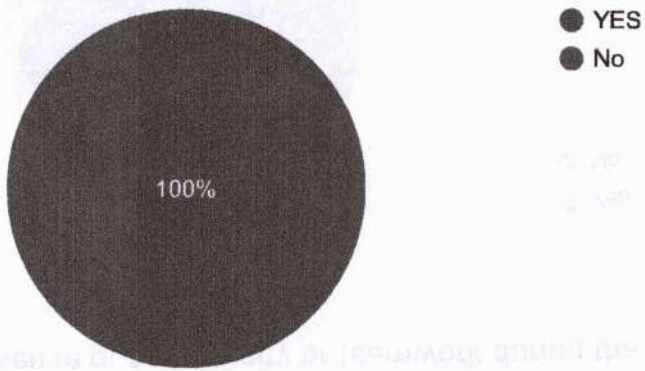
IoT | Workshop on Internet of Things using Arduino, RaspberryPi & MQTT

13 responses

Were the workshop materials and content relevant to your expectations and needs?

Copy

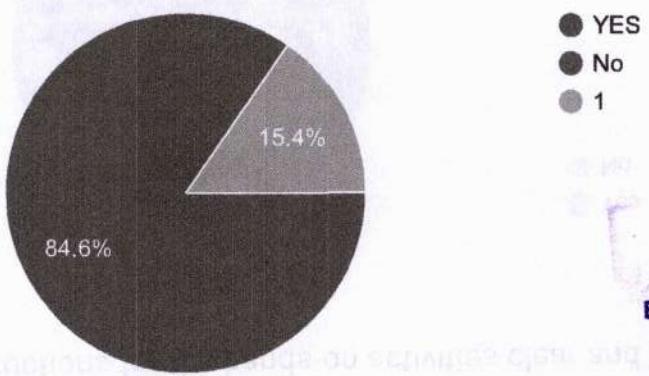
13 responses



Did the instructors encourage questions and provide clear explanations?

Copy

13 responses



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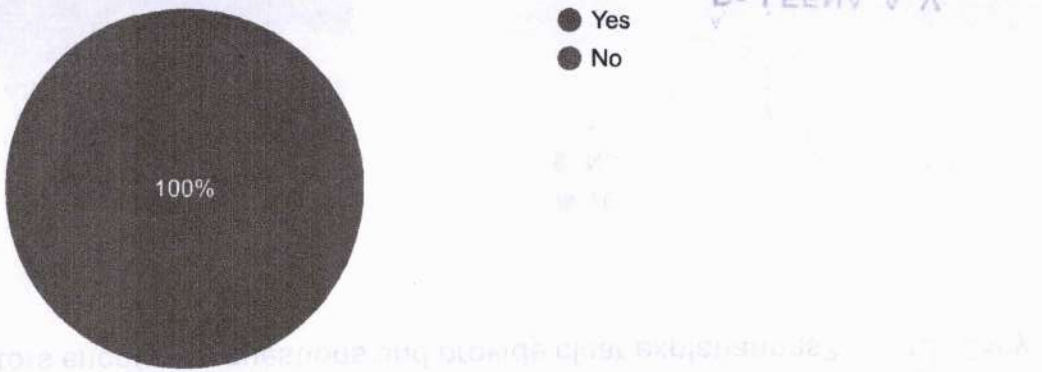
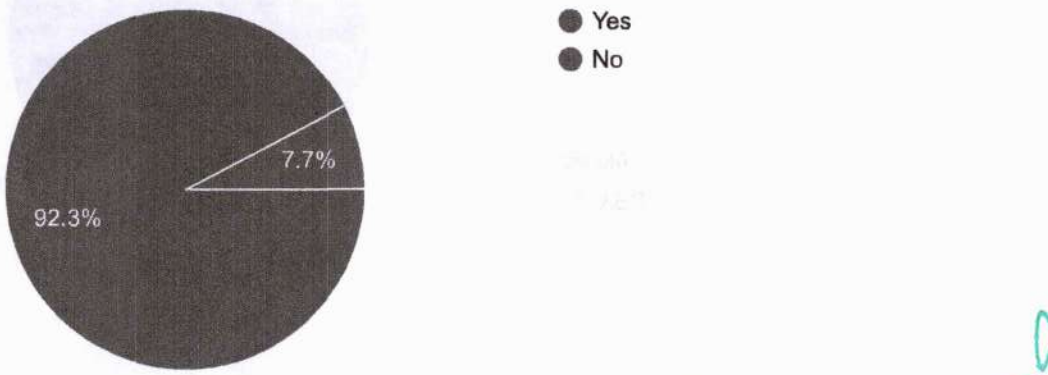
Were the instructions for the hands-on activities clear and easy to follow? Copy

13 responses



Did you feel a sense of community or teamwork during the workshop? Copy

13 responses



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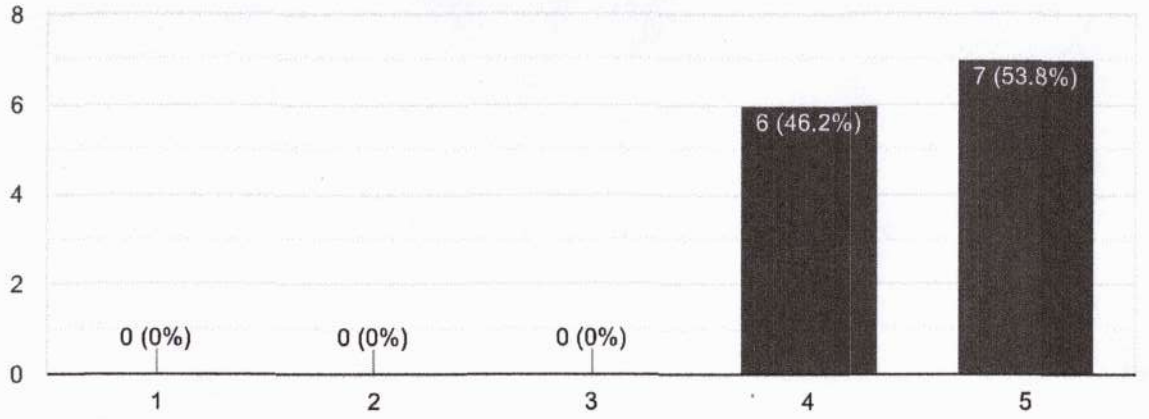
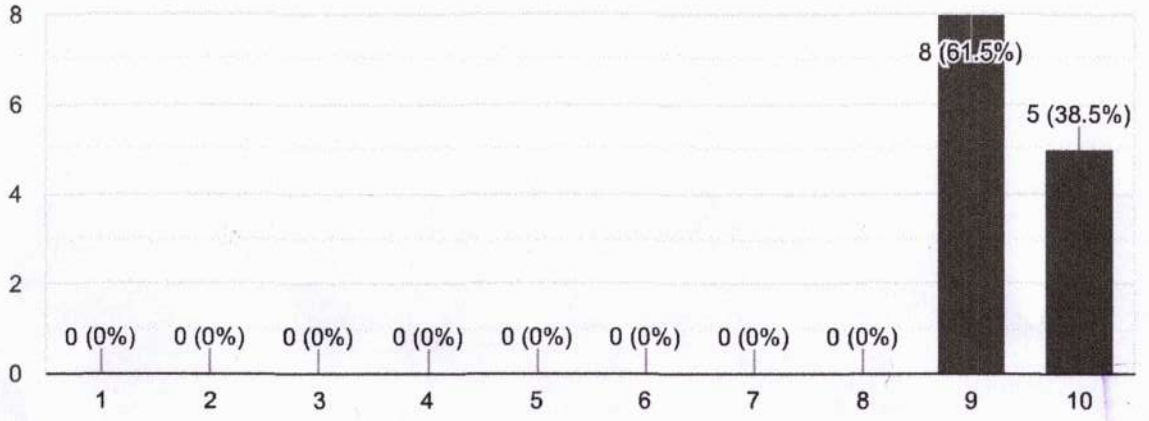
How would you rate the knowledge and expertise of the instructors? Copy

13 responses



On a scale of 1 to 10, how would you rate your overall experience in this robotics workshop? Copy

13 responses



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DEPARTMENT OF ELECTRONICS AND COMUNICATION ENGINEERING

PRESENTS

TAL IMAGE PROCESSING USING PYTHON

SREELAKSHMI C

PROJECT ENGINEER,HEALTHCARE TECHNOLOGY INNOVATION CENTRE(HTIC),CHENNA

4 NOV-8 NOV 2019 TIME :9:00AM MEETING HALL

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SYLLABUS

Sl.No	Topic
1	Introduction to Digital Image Processing and Python Basics, Basic Python Programming Concepts
2	Fundamentals of Image Representation and Enhancement, Understanding Image Representation (Pixel, Resolution, Color Models) Basic Image Operations (Brightness, Contrast, Histogram)
3	Image Filtering Techniques, Convolution and Filtering Concepts Common Image Filters (Blur, Sharpen, Edge Detection) Image Enhancement Techniques Histogram Equalization
4	Image Transformation Techniques Fourier Transform Discrete Cosine Transform
5	Image Segmentation Techniques & Practical Applications

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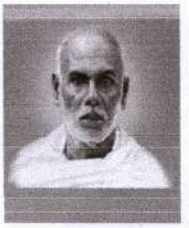

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WORKSHOP ON DIGITAL IMAGE PROCESSING USING PYTHON

SCHEDULE

Sl.No	Date & Time	Topic
1	04-11-2019 9.00 am to 12.30 pm 1.30 pm to 4.30 pm	Introduction to DIP & Python
2	05-11-2019 9.00 am to 12.30 pm 1.30 pm to 4.30 pm	Fundamentals of Image Representation
3	6-11-2019 9.00 am to 12.30 pm 1.30 pm to 4.30 pm	Image Filtering Techniques
4	7-11-2019 9.00 am to 12.30 pm 1.30 pm to 4.30 pm	Image Transformation
5	8-11-2019 9.00 am to 12.30 pm 1.30 pm to 4.30 pm	Image Segmentation

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

STUDENT REGISTRATION LIST FOR WORKSHOP IN DIP

Sl.No.	Register No.	Student Name	Class
1	SNC16EC001	AFEEFA K	S7
2	SNC16EC002	ANAGHA P	S7
3	SNC16EC003	ANJALI BABU K	S7
4	SNC16EC005	ASWATHI K T	S7
5	SNC16EC006	ATHENA ANIL	S7
6	SNC16EC007	ATHULYA KC	S7
7	SNC16EC008	HARSHA SHANKAR	S7
8	SNC16EC009	KP ANUPRIYA	S7
9	SNC16EC010	NAVEENA.M	S7
10	SNC16EC011	NAVYA BHASKARAN	S7
11	SNC16EC012	SREE HARI	S7
12	SNC16EC013	SUDEEP K S	S7
13	SNC16EC014	VIPIN P V	S7
14	SNC17EC001	ANJANA.P.M	S7
15	SNC17EC002	ASHNA SHIBURAJ	S7
16	SNC17EC003	ASHWIN K RAJ	S5
17	SNC17EC004	ASWATHI.M.V	S5
18	SNC17EC006	GOPIKA RAJ NAMBIAR	S5
19	SNC17EC007	MOHAMMED SHAZ	S5
20	SNC17EC009	SAYOOJ.K	S5
21	SNC17EC010	SHREYALAKSHMI.M	S5
22	SNC17EC011	SREEROOP PRASAD	S5
23	SNC17EC013	T.P.MALAVIKA SAJEEV	S5
24	SNC17EC014	VISMAYA MANOHARAN	S5

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26	LSNC17EC015	ARYA.A	S5
27	LSNC17EC016	KARTHIKA.T	S5
28	SGT17EC005	RASHMITHA K	S5
29	SNC18EC001	ASWATHI ASHOKAN	S3
30	SNC18EC002	DHANUSH PUTHALATH	S3
31	SNC18EC003	HRITHIKA.K.V	S3
32	SNC18EC004	MABITHA.C	S3
33	SNC18EC005	REMNA.P	S3
34	SNC18EC006	SNEHA SURENDRAN.N	S3
35	SNC18EC007	VRINDA RAMACHANDRAN K	S3
36	2019ECE003	ARJUN ASHOK K	S1
37	2019ECE001	JITHIN SASIDHARAN NV	S1
38	2019ECE002	KEERTHANA C V	S1
39	2019ECE006	MARIYAMBI	S1
40	2019ECE004	SANISHMA SACHITHANAND	S1

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(PROMOTED BY SREE BHAKTHI SAMVARDHINI YOGAM, KANNUR)
CHALAKODE P.O., PAYYANUR, KANNUR–670307, KERALA

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ATTENDANCE –DAY 2

Sl.No	Name	Class	Signature
1	Afeefa K	S7	
2	Anagha P	S7	
3	Anjali Babu K	S7	
4	Aryasree Vijayraj D	S7	
5	Aswathi K T	S7	
6	Athena Anil	S7	
7	Athulya K C	S7	
8	Harsha Sankar	S7	
9	K P Anupriya	S7	
10	Naveena M	S7	
11	Navya Bhaskaran	S7	
12	Sreehari	S7	
13	Sudeep K S	S7	
14	Vipin P V	S7	
15	Vismitha Pramod	S7	
16	Anjana.P.M	S5	
17	Ashna Shiburaj	S5	
18	Ashwin K Raj	S5	
19	Aswathi.M.V	S5	
20	Rashmitha K	S5	
21	Gopika Raj Nambiar	S5	
22	Mohammed Shaz	S5	
23	Sayooj.K	S5	
24	Shreyalakshmi.M	S5	
25	Sreeroop Prasad	S5	
26	T.P.Malavika Sajeev	S5	
27	Vismaya Manoharan	S5	
28	Arya.A	S3	

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29	Karthika.T	S3	
30	Aparna Sajikumar	S3	
31	Aswathi Ashokan	S3	
32	Dhanush Puthalath	S3	
33	Hrithika K V	S3	
34	Mabitha C	S3	
35	Remna P	S3	
36	Sneha Surendran N	S3	
37	Vrinda Ramachandran	S3	
38	Arjun Ashok K	S1	
39	JithinSasidharan N V	S1	
40	Keerthana C V	S1	
41	Mariyambi	S1	
42	Sanishma Sachithanand	S1	

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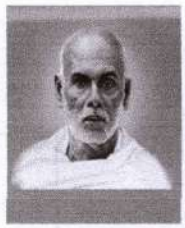

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ATTENDANCE –DAY 3

Sl.No	Name	Class	Signature
1	Afeefa K	S7	
2	Anagha P	S7	
3	Anjali Babu K	S7	
4	Aryasree Vijayraj D	S7	
5	Aswathi K T	S7	
6	Athena Anil	S7	
7	Athulya K C	S7	
8	Harsha Sankar	S7	
9	K P Anupriya	S7	
10	Naveena M	S7	
11	Navya Bhaskaran	S7	
12	Sreehari	S7	
13	Sudeep K S	S7	
14	Vipin P V	S7	
15	Vismitha Pramod	S7	
16	Anjana.P.M	S5	
17	Ashna Shiburaj	S5	
18	Ashwin K Raj	S5	
19	Aswathi.M.V	S5	
20	Rashmitha K	S5	
21	Gopika Raj Nambiar	S5	
22	Mohammed Shaz	S5	
23	Sayooj.K	S5	
24	Shreyalakshmi.M	S5	
25	Sreeroop Prasad	S5	
26	T.P.Malavika Sajeev	S5	
27	Vismaya Manoharan	S5	
28	Arya.A	S3	

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29	Karthika.T	S3	
30	Aparna Sajikumar	S3	
31	Aswathi Ashokan	S3	
32	Dhanush Puthalath	S3	
33	Hrithika K V	S3	
34	Mabitha C	S3	
35	Remna P	S3	
36	Sneha Surendran N	S3	
37	Vrinda Ramachandran	S3	
38	Arjun Ashok K	S1	
39	JithinSasidharan N V	S1	
40	Keerthana C V	S1	
41	Mariyambi	S1	
42	Sanishma Sachithanand	S1	

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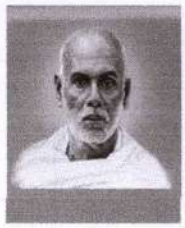

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ATTENDANCE –DAY I

Sl.No	Name	Class	Signature
1	Afeefa K	S7	
2	Anagha P	S7	
3	Anjali Babu K	S7	
4	Aryasree Vijayraj D	S7	
5	Aswathi K T	S7	
6	Athena Anil	S7	
7	Athulya K C	S7	
8	Harsha Sankar	S7	
9	K P Anupriya	S7	
10	Naveena M	S7	
11	Navya Bhaskaran	S7	
12	Sreehari	S7	
13	Sudeep K S	S7	
14	Vipin P V	S7	
15	Vismitha Pramod	S7	
16	Anjana.P.M	S5	
17	Ashna Shiburaj	S5	
18	Ashwin K Raj	S5	
19	Aswathi.M.V	S5	
20	Rashmitha K	S5	
21	Gopika Raj Nambiar	S5	
22	Mohammed Shaz	S5	
23	Sayooj.K	S5	
24	Shreyalakshmi.M	S5	
25	Sreeroop Prasad	S5	
26	T.P.Malavika Sajeev	S5	
27	Vismaya Manoharan	S5	
28	Arya.A	S3	

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KANNUR

29	Karthika.T	S3	
30	Aparna Sajikumar	S3	
31	Aswathi Ashokan	S3	
32	Dhanush Puthalath	S3	
33	Hrithika K V	S3	
34	Mabitha C	S3	
35	Remna P	S3	
36	Sneha Surendran N	S3	
37	Vrinda Ramachandran	S3	
38	Arjun Ashok K	S1	
39	JithinSasidharan N V	S1	
40	Keerthana C V	S1	
41	Mariyambi	S1	
42	Sanishma Sachithanand	S1	

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

ATTENDANCE –DAY 4

Sl.No	Name	Class	Signature
1	Afeefa K	S7	
2	Anagha P	S7	
3	Anjali Babu K	S7	
4	Aryasree Vijayraj D	S7	
5	Aswathi K T	S7	
6	Athena Anil	S7	
7	Athulya K C	S7	
8	Harsha Sankar	S7	
9	K P Anupriya	S7	
10	Naveena M	S7	
11	Navya Bhaskaran	S7	
12	Sreehari	S7	
13	Sudeep K S	S7	
14	Vipin P V	S7	
15	Vismitha Pramod	S7	
16	Anjana.P.M	S5	
17	Ashna Shiburaj	S5	
18	Ashwin K Raj	S5	
19	Aswathi.M.V	S5	
20	Rashmitha K	S5	
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22	Mohammed Shaz	S5	
23	Sayooj.K	S5	
24	Shreyalakshmi.M	S5	
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26	T.P.Malavika Sajeev	S5	
27	Vismaya Manoharan	S5	
28	Arya.A	S3	

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34	Mabitha C	S3	
35	Remna P	S3	
36	Sneha Surendran N	S3	
37	Vrinda Ramachandran	S3	
38	Arjun Ashok K	S1	
39	JithinSasidharan N V	S1	
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

WORKSHOP ON DIGITAL IMAGE PROCESSING USING PYTHON

The Department of Electronics and Communication Engineering at Sree Narayana Guru College of Engineering and Technology conducted a workshop on digital image processing using python from 04.11.2019 to 08.11.2019. The aim of the workshop is to introduce participants to the fundamentals of digital image processing.

The workshop began with a warm welcome by Prof. Raveendran K, HoD, ECE who introduced the participants to the objectives of the workshop. This Five day workshop's objectives were to familiarize participants with the Python programming language and give them the foundational knowledge they would need to use Python in a variety of applications. Subitha M. B. planned the event, while Er. Sreelakshmi C., an expert Python trainer, led the training. 40 eager participants from a variety of backgrounds, including complete novices and those with some prior coding experience, attended the class.

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The topics include introduction, image preprocessing, image transformation, image segmentation, etc.

The practical exercises were given to put their new knowledge into practice during the program. Participants gave the workshop overwhelmingly excellent reviews. Participants praised the thorough treatment of image processing concepts and the practical learning style.

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SREE NARAYANA GURU COLLEGE OF ENGINEERING AND TECHNOLOGY PAYYANUR

WORKSHOP ON DIGITAL IMAGE PROCESSING USING PYTHON

CERTIFICATE

This certificate is issued to

Mr./Ms ARYA A .....

For Participating in the five days Hands On Training on Embeded C,C++ at Sree Narayana Guru College of Engineering and Technology, Payyanur from 04-11-2019 to 08-11-2019

COORDINATOR HOD ECE PRINCIPAL

Dr. LEENA A. V.
PRINCIPAL
GURU COLLEGE
OGY, PAYYANUR
KANNUR

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

A Workshop on

DIGITAL IMAGE PROCESSING USING PYTHON

Parameter	E: Excellent	VG : Very Good	G : Good	S : Satisfactory
Registration	✓			
Program Management	✓			
Food and Hospitality			✓	
Event conduction		✓		

Participant Name : Rashmitha.K

Semester : S5

Suggestions for improvement : Advanced Python workshop is needed.

Signature of Participant

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

A Workshop on

DIGITAL IMAGE PROCESSING USING PYTHON

Parameter	E: Excellent	VG : Very Good	G : Good	S : Satisfactory
Registration	✓			
Program Management	✓			
Food and Hospitality				✓
Event conduction	✓			

Participant Name : Athulya K C

Semester : S7

Suggestions for improvement : Expecting more events

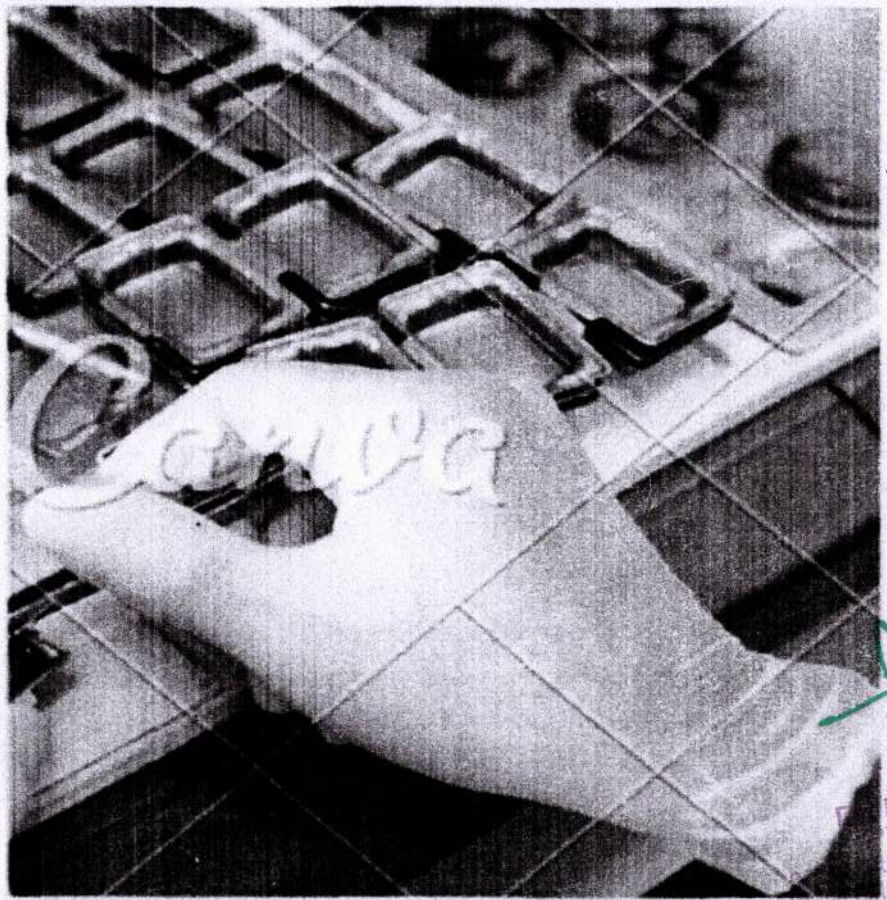
Signature of Participant

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR KANNUR

Est. 2003

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR, KANNUR, KERALA

Promoted by Sree Bhakthi Samvardhini Yogam, (Affiliated to KTU, Recognized by AICTE)



HANDS ON TRAINING ON EMBEDDED C,C++

ORGANIZED BY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

On 25/07/2018

-29/[redacted]2018

@SCL,ECE

LEENA A. V.
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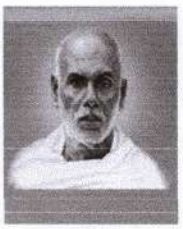

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

HANDS ON TRAINING ON EMBEDDED C, C++

SCHEDULE

Sl.No	Date	Time	Topic
1	25-07-2018	9.00 am to 12.30 pm	Introduction to Embedded Systems and C Programming Overview of Embedded Systems.
		1.30 pm to 4.30 pm	Basics of Microcontrollers. Introduction to C Programming Data types, operators, and expressions
2	26-07-2018	9.00 am to 12.30 pm	Advanced C Programming for Embedded Systems Control flow statements (if, else, switch).Functions and modular programming.
		1.30 pm to 4.30 pm	Arrays and pointers in C. Memory management in C
3	27-07-2018	9.00 am to 12.30 pm	Embedded Systems Architecture. Microcontroller architecture basics.
		1.30 pm to 4.30 pm	Input/Output (I/O) operations and interfacing. Timers and counters
4	28-07-2018	9.00 am to 12.30 pm	Introduction to C++.Basics of Object-Oriented Programming (OOP).
		1.30 pm to 4.30 pm	Classes and objects in C++.Memory management in C++
5	29-07-2018	9.00 am to 12.30 pm	Embedded C and C++ Project Work.Select a small-scale embedded project.Develop the project using Embedded C and C++.
		1.30 pm to 4.30 pm	Hands-on debugging and testing.Project presentation and feedback session

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

HANDS ON TRAINING ON EMBEDDED C, C++

SYLLABUS

Sl.No	Topic
1	Introduction to Embedded Systems and C Programming • Overview of Embedded Systems • Basics of Microcontrollers • Introduction to C Programming • Data types, operators, and expressions
2	Advanced C Programming for Embedded Systems • Control flow statements (if, else, switch) • Functions and modular programming • Arrays and pointers in C • Memory management in C
3	Embedded Systems Architecture • Microcontroller architecture basics • Input/Output (I/O) operations and interfacing • Timers and counters
4	Introduction to C++ • Basics of Object-Oriented Programming (OOP) • Classes and objects in C++ • Memory management in C++
5	Embedded C and C++ Project Work • Select a small-scale embedded project • Develop the project using Embedded C and C++ • Hands-on debugging and testing • Project presentation and feedback session

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

STUDENTS LIST

Sl.No	Name
1	Adarsh Prakash
2	Aswathi Sreekanth
3	Gopika C
4	Rithin Ramesh
5	Shabna Melath Babu
6	Sheona Sathish
7	Sruthi T K
8	Afeefa K
9	Anagha P
10	Anjali Babu K
11	Aryasree Vijayaraj D
12	Aswathi K T
13	Athena Anil
14	Athulya K C
15	Harsha Sankar
16	Sudeep K S
17	Vipin P V
18	Vismitha Pramod
19	Anjana P M
20	Asha Shiburaj
21	Aswathi M V
22	Gopika Raj Nambiar

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23	Shreya Lakshmi M
24	TP Malavika Sajeev
25	Vismaya Manoharan
26	Arya A
27	Karthika T
28	Aparna Sajikumar
29	Aswathi Asokan
30	Dhanush Puthalath
31	Hrithika K V
32	Mabitha C
33	Vrinda Ramachandran
34	Mr. Raveendran K
35	Ms. Namitiia Narayanan
36	Ms. Leena-Narayanan
37	Ms. Roshni V V
38	Ms. Kavya Vinod
39	Ms. Amrutha M V

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DEPARTMENT OF ELECTRONICS &COMMUNICATION ENGINEERING

PARTICIPANTS LIST IN HANDS ON TRAINING (Day 1)

Sl. No.	Name	Signature
1	Adarsh Prakash	
2	Aswathi Sreekanth	
3	Gopika C	
4	Rithin Ramesh	
5	Shabna Melath Babu	
6	Sheona Sathish	
7	Sruthi T K	
8	Afeefa K	
9	Anagha P	
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25	Vismaya Manoharan	
26	Arya A	
27	Karthika T	
28	Aparna Sajikumar	
29	Aswathi Asokan	
30	Dhanush Puthalath	
31	Hrithika K V	
32	Mabitha C	
33	Vrinda Ramachandran	

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KANNUR

34	Mr. RAVEENDRAN K	
35	Ms. NAMITHA NARAYANAN	
36	Ms. LEENA NARAYANAN	
37	Ms. ROSHNI V V	
38	Ms. AMRUTHA M V	
39	Ms. KAVYA VINOD	

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KANNUR

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRONICS &COMMUNICATION ENGINEERING

PARTICIPANTS LIST IN HANDS ON TRAINING (Day 2)

Sl. No.	Name	Signature
1	Adarsh Prakash	
2	Aswathi Sreekanth	
3	Gopika C	
4	Rithin Ramesh	
5	Shabna Melath Babu	
6	Sheona Sathish	
7	Sruthi T K	
8	Afeefa K	
9	Anagha P	
10	Anjali Babu K	
11	Aryasree Vijayaraj D	
12	Aswathi K T	
13	Athena Anil	
14	Athulya K C	
15	Harsha Sankar	
16	Sudeep K S	
17	Vipin P V	
18	Vismitha Pramod	
19	Anjana P M	
20	Asha Shiburaj	
21	Aswathi M V	
22	Gopika Raj Nambiar	
23	Shreya Lakshmi M	
24	T P Malavika Sajeev	
25	Vismaya Manoharan	
26	Arya A	
27	Karthika T	
28	Aparna Sajikumar	
29	Aswathi Asokan	
30	Dhanush Puthalath	
31	Hrithika K V	
32	Mabitha C	

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33	Vrinda Ramachandran	
34	Mr. RAVEENDRAN K	
35	Ms. NAMITHA NARAYANAN	
36	Ms. LEENA NARAYANAN	
37	Ms. ROSHNI V V	
38	Ms. AMRUTHA M V	
39	Ms. KAVYA VINOD	

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PARTICIPANTS LIST IN HANDS ON TRAINING (Day 3)

Sl. No.	Name	Signature
1	Adarsh Prakash	
2	Aswathi Sreekanth	
3	Gopika C	
4	Rithin Ramesh	
5	Shabna Melath Babu	
6	Sheona Sathish	
7	Sruthi T K	
8	Afeefa K	
9	Anagha P	
10	Anjali Babu K	
11	Aryasree Vijayaraj D	
12	Aswathi K T	
13	Athena Anil	
14	Athulya K C	
15	Harsha Sankar	
16	Sudeep K S	
17	Vipin P V	
18	Vismitha Pramod	
19	Anjana P M	
20	Asha Shiburaj	
21	Aswathi M V	
22	Gopika Raj Nambiar	
23	Shreya Lakshmi M	
24	T P Malavika Sajeev	
25	Vismaya Manoharan	
26	Arya A	
27	Karthika T	
28	Aparna Sajikumar	
29	Aswathi Asokan	
30	Dhanush Puthalath	
31	Hrithika K V	
32	Mabitha C	

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33	Vrinda Ramachandran	
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DEPARTMENT OF ELECTRONICS &COMMUNICATION ENGINEERING

PARTICIPANTS LIST IN HANDS ON TRAINING Day 4

Sl. No.	Name	Signature
1	Adarsh Prakash	
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24	T P Malavika Sajeev	
25	Vismaya Manoharan	
26	Arya A	
27	Karthika T	
28	Aparna Sajikumar	
29	Aswathi Asokan	
30	Dhanush Puthalath	
31	Hrithika K V	
32	Mabitha C	
33	Vrinda Ramachandran	

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KANNUR

34	Mr. RAVEENDRAN K	
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SREE NARAYANA GURU

COLLEGE OF ENGINEERING & TECHNOLOGY

(PROMOTED BY SREE BHAKTHI SAMVARDHINI YOGAM, KANNUR)

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

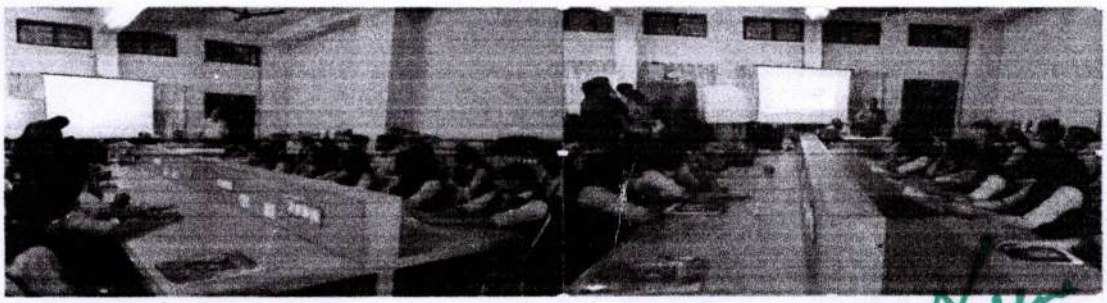
A Brief Report Of Five Days Internship Program On
EMBEDDED C AND C++ WITH HANDS-ON-TRAINING
on 25-07-2018 to 29 -07- 2018

The Department Of Electronics and Communication has organized a three days Internship Program on **EMBEDDED C AND C++** in technical collaboration with Armino Embedded & Automation Solutions LLP, Calicut on 25thjuly to 29th July 2018 at SNGCET, Payyanur.

Mr.N.P Sooraj and Mr.Jithesh K of Armino Embedded & Automation Solutions LLP, Calicut were the resource persons for the program. They have a wide industrial experience in the field of Embedded Systems and solutions. Armino is an Indian Domestic Electronic and Automation Company headquartered at Calicut, Kerala. Armino mainly focuses on automation solutions, embedded and Green energy services.

Main objective of this technical and educational program was to introduce the knowledge of Embedded C and C++ Systems for S7, S5 and S3 students, which will be useful for their academic project development and curriculum.

The Inaugural function of the Internship Program started with welcome address by Prof. Raveendran K, H.O.D, Electronics & Communication Engineering Department. The Principal, Dr. V.K. Janardanan was the chief guest for the function. He inaugurated the workshop. Lt.Col C Preveen felicitated the workshop and Ms Leena Narayanan, Assistant Professor delivered the vote of thanks.



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After the inaugural session, technical session was started by Mr. N.P Sooraj on the topic "Overview of Embedded Systems". He mentioned briefly about the architecture and application of embedded systems. In the afternoon session simple programs were discussed and different sensors were interfaced with Microcontroller.

On the second day Wireless Communication basics were covered and Machine to Machine Communication was introduced. On the third day concepts of C++ were introduced and also simple C++ programs were discussed.

The key focus of the Internship Program was hands-on training on Arduino board and different sensors. In the interactive lab session, Mr. Sooraj explained the basics of Embedded C and demonstrated the above software with few design examples.

33 students and 6 faculty members actively participated and had an excellent learning experience with hands-on training in the internship program.

The Internship Program ended with a feedback from Ms. Aswathi Sreekanth of S7 ECE. Students suggested that workshops of this kind would be very useful for them to learn and develop the academic projects in more effective manner.

The workshop was a great success and marked a milestone to the entire Department of Electronics & Communication Engineering.

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CERTIFICATE

HANDS ON TRAINING ON EMBEDDED C,C++

This Certificate is issued to Ms. AFEEFA K for participating the 5 days Hands On Training On Embedded C<C++ at Sree Narayana Guru College Of Engineering & Technology from 25/07/2018 -29/07/2018

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CO ORDINATOR

HOD,ECE

PRINCIPAL

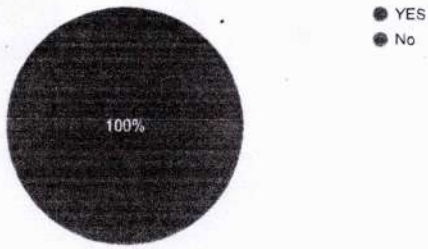
HANDS ON TRAINING_C_C++

9 responses

Publish analytics

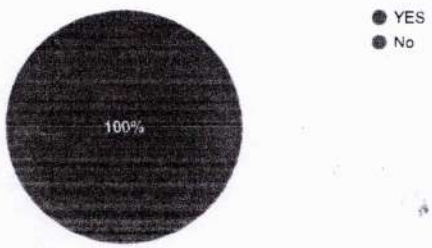
Were the materials and content relevant to your expectations and needs? Copy

9 responses



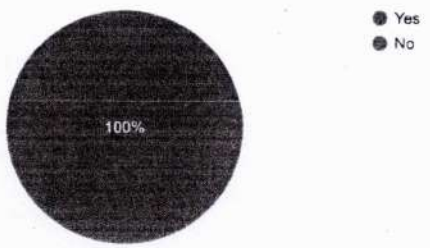
Did the instructors encourage questions and provide clear explanations? Copy

9 responses



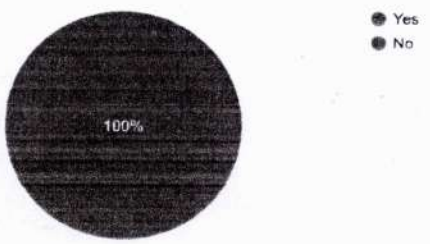
Did you feel that you had sufficient time to complete the hands-on activities? Copy

9 responses



Were the instructions for the hands-on activities clear and easy to follow? Copy

9 responses



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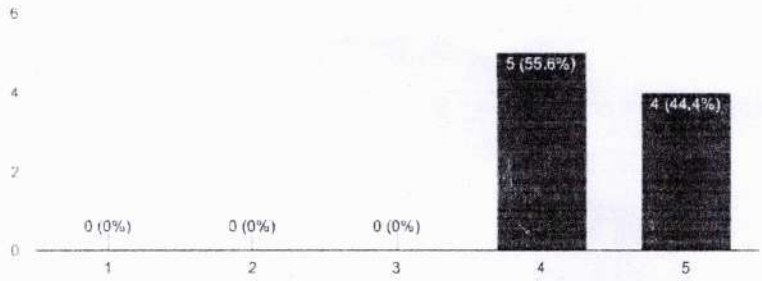
How would you rate the knowledge and expertise of the instructors?

Copy

9 responses



Do you have any suggestions for making the workshop more engaging or informative?

1 response

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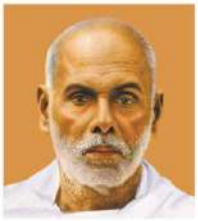
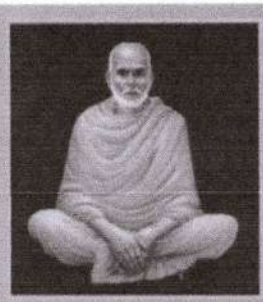


DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

Promoted by Sree Bhakthi Samvardhini Yogam, Kannur
Affiliated to KTU & Recognised by AICTE, New Delhi
Payyanur, Kannur, Kerala, Pin-670307
Office-04985-201989, 7812911912 Email-info@sngcet.org



ONE DAY HANDS-ON TRAINING ON PCB DESIGN AND FABRICATION

For all EEE Students

Organized by
Department of Electrical & Electronics Engineering

from 30-03-2023 to 03-04-2023

9.00am to 4.30pm

Venue: LED Manufacturing unit

Staff co ordinators

Ms. Archana C P
Assistant Professor
Department of EEE

Mr. Sreeraj T K
Lab Instructor
Department of EEE

Student co ordinators

Mr. Vaishnav T V
S8 EEE

Ms. Aswathi P P
S6 EEE

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

5 Days Workshop on PCB DESIGN AND FABRICATION PROGRAM:

30th March to 03rd April, 2023

DAY 1		
Date	**Time**	
30-03-2023	09:30 AM-09.45 AM	**Introduction by Coordinator** Ms. Archana C P AP EEE, SNGCET
	09:45AM -10:00AM	**Departmental address by** Mr. Abhilash Krishnan T K HoD EEE, SNGCET
	10.00 AM-12:00 PM	**Introduction to PCB** Ms. Archana C AP EEE, SNGCET
	01:00PM-3:30PM	**Design Concepts of PCB** Mr. Sreeraj. T K Lab Instructor EEE, SNGCET

DAY 2		
31-03-2023	09:30 AM-12:00 PM	**PCB layer Explanation** Ms. Archana C P Assistant Professor EEE, SNGCET
	01:00 PM-3:30 PM	**Manufacturing Design** Mr. Sreeraj.T K Lab Instructor EEE, SNGCET
DAY 3		
	09:30 AM-12:00 PM	**Hands on training and PCB design** Ms. Archana C P Assistant ProfessorEEE, SNGCET
	01:00 PM-3:30 PM	**Hands on training and Explanation of design rules** Mr. Sreeraj.T K Lab Instructor EEE, SNGCET

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DAY 4		
02-04-2023	09:30 AM-12:00 PM	**PCB fabrication process** Mr. Sreeraj.T K Lab Instructor EEE, SNGCET
	01:00 PM-3:30 PM	**Hands on training.** Mr. Sreeraj.T K Lab Instructor Dept. of EEE, SNGCET
DAY 5		
03-04-2023	09:30 AM-12:00 PM	**Hands on practice** Ms. Archana C P Assistant Professor Dept. of EEE, SNGCET
	01:00 PM-3:00 PM	**Hands on practice** Ms. Archana C P Assistant Professor Dept. of EEE, SNGCET
	3.00 PM **-4.00** PM	**Feedback session** From students **Certificate distribution ceremony** Mr. Abhilash Krishnan T K HoD Dept. of EEE, SNGCET

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SYLLABUS

PCB Design and Fabrication

Day 1: Introduction to PCBs and Basic Design Concepts

Morning Session:

Introduction to Printed Circuit Boards (PCBs): Definition, importance, and applications.

Overview of the PCB design process: From schematic to layout.

Introduction to common PCB design software tools (e.g., Eagle, Altium, KiCad).

Afternoon Session:

Understanding basic design concepts:

PCB layers: Types and functions.

Component placement: Considerations and best practices.

Introduction to routing traces: Signal paths, trace width, and clearance.

Day 2: Advanced PCB Design Techniques

Morning Session:

Understanding PCB layer stack-up: Importance and configuration.

Signal integrity considerations: Impedance matching, signal integrity analysis.

Designing for EMI/EMC compliance: Grounding techniques, signal shielding.

Afternoon Session:

High-speed design principles: Differential pairs, controlled impedance routing.

Design for manufacturability (DFM) guidelines: Design rule checks (DRC), panelization.

Day 3: PCB Design Software Proficiency

Morning Session:

Practical session: Hands-on training with PCB design software.

Familiarization with the user interface, toolbars, and shortcuts.

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Creating schematics: Adding components, connecting nets.

Afternoon Session:

Layout design: Placing components, routing traces, ground planes.

Introduction to design constraints and design rules.

Day 4: PCB Fabrication Process

Morning Session:

Overview of the PCB fabrication process: Steps involved from design to finished board.

Understanding Gerber files: Format, layers, and their role in fabrication.

Selection of PCB materials: Types, properties, and considerations.

Afternoon Session:

Design optimization for fabrication: Panelization, copper weight, solder mask considerations.

Introduction to PCB assembly (PCBA): SMT vs. Through-hole, assembly techniques.

Day 5: Hands-On Fabrication and Design Review

Morning Session:

Hands-on practical session: Participants design their PCB layouts using software.

Guidance provided on optimizing designs for fabrication and assembly.

Afternoon Session:

Design review and feedback: Participants present their designs for review and critique.

Discussion on common mistakes and how to avoid them.

Q&A session: Addressing participants' queries and clarifications.

Conclusion and Certificate Distribution.

This 5-days training syllabus provides a structured approach to learning PCB design and fabrication, covering essential concepts, advanced techniques, practical software training, and hands-on experience. Each day focuses on specific aspects of PCB design and fabrication, gradually building participants' skills and knowledge throughout the training program.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

Registration Form

Date: 30/03/2023 to 03/04/2023 | Venue: Led Bulb Manufacturing Unit

Sl.No	Name of Students	Semester	Branch
1	VYSHNAV TV	S8	EEE
2	DEVI KEERTHANA	S8	EEE
3	ASWATHI PP	S6	EEE
4	ADHIN O	S4	EEE
5	ANURAJ N	S4	EEE
6	NIHAD T	S4	EEE
7	ADITHYA K	S2	EEE
8	DIYA KC	S2	EEE
9	ANUVIND NK	S2	EEE
10	VISMAYA	S2	EEE

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

ATTENDANCE SHEET

Date: 30/03/2023 to 03/04/2023

Venue: Led Bulb Manufacturing Unit

		ATTENDANCE				
Sl.No	**Name of Students**	**30-03-2023**	**31-03-2023**	**01-04-2023**	**02-04-2023**	**03-04-2023**
1	VYSHNAV TV					
2	DEVI KEERTHANA					
3	ASWATHI PP					
4	ADHIN O					
5	ANURAJ N					
6	NIHAD T					
7	ADITHYA K					
8	DIYA KC					
9	ANUVIND NK					
10	VISMAYA					

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ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT

HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

The Department of Electrical and Electronics Engineering conducted five days Hands on training on PCB Design and Fabrication for all students of our college from 30 March 2023 to 03 April 2023. A Total of 10 students participated in the training session. The students gained hands on experience in PCB Design and Fabrication.

The event was inaugurated by Dr. Leena A V, Principal, SNGCET. Welcome addresse was delivered by Mr. Abhilash Krishnan (HoD, EEE). Mr. Archana C P, (AP. EEE) delivered felicitation speech. Welcome address delivered by Ms. Aswathi PP, Student Coordinator and Mr. Vaishnav TV, student co coordinator delivered vote of thanks.

The 5-days training session was handled by Mr. Sreeraj, the lab instructor EEE.

The primary objectives of the training were:

To familiarize participants with the fundamentals of PCB design. To provide practical training on using PCB design software. To educate participants about the PCB fabrication process. To enable participants to create their PCB designs and fabricate them.

Participants gained a comprehensive understanding of PCB design principles and techniques. Hands-on experience enabled participants to create their PCB designs effectively. Participants learned how to optimize designs for fabrication, ensuring manufacturability and reliability. Increased confidence among participants in using PCB design software and submitting designs for fabrication.

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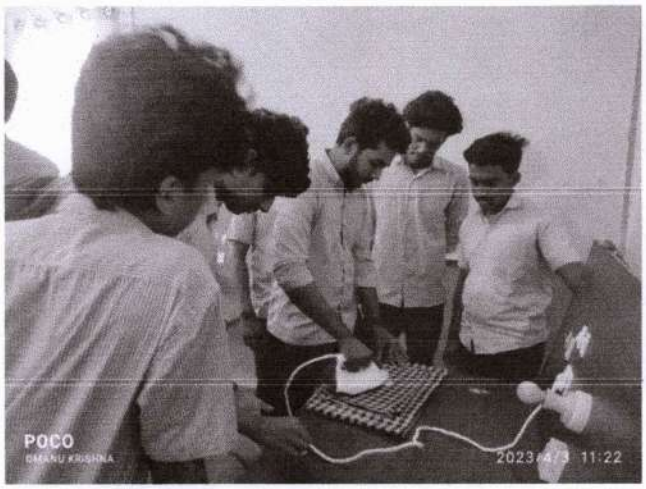

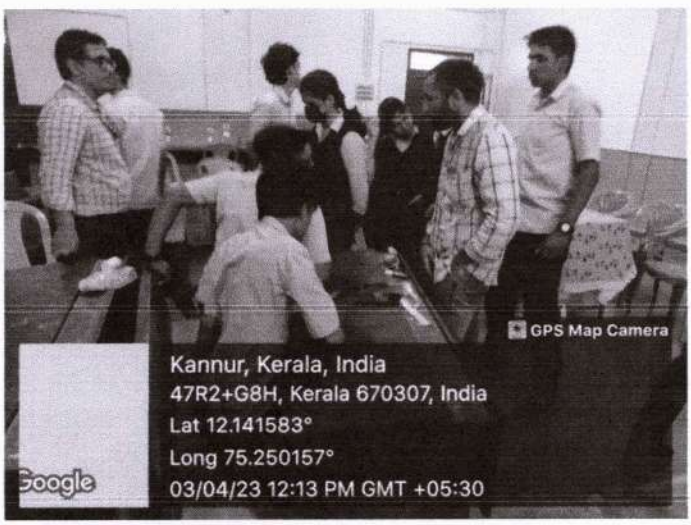

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(Promoted by Sree Bhakthi Samvardhini Yogam, Kannur)
(Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi)
Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to crtify that

VYSHNAV TV

has sucessfully completed Five days hands on training program on PCB Design and Fabrication organised by Department of Electrical and Electronics Engineering from 30-03-2023 to 03-04-2023

Coordinator
Ms. Archana CP
Assistant Professor

HoD- EEE
Mr. Abhilash Krishnan T K
Associate Professor

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

Pricipal
Dr.Leen A V

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days PCB training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Vyshnav TV

Date: 03/04/23

Training Session Evaluation:

1. **Overall Satisfaction:**
   - Very Satisfied ✓
   - Satisfied
   - Neutral
   - Dissatisfied
   - Very Dissatisfied
2. **Relevance of Training Content:**
   - Highly Relevant ✓
   - Relevant
   - Somewhat Relevant
   - Not Relevant
3. **Clarity of Instruction:**
   - Very Clear ✓
   - Clear
   - Somewhat Clear
   - Unclear
4. **Quality of Training Materials:**
   - Excellent ✓
   - Good
   - Fair
   - Poor

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5. **Effectiveness of Hands-on Exercises:**

- Very Effective
- Effective ✓
- Somewhat Effective
- Ineffective

6. **Interaction with Instructor:**

- Excellent
- Good ✓
- Fair
- Poor

7. **Likelihood of Recommending this Training to Others:**

- Very Likely
- Likely ✓
- Neutral
- Unlikely
- Very Unlikely

8. **Did the training session encourage you to learn more about LED technology?**

- Yes ✓
- No

9. **Overall Training Experience:**

- Excellent ✓
- Good
- Fair
- Poor

10. **Additional Comments or Suggestions:**

Good

Leena

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days PCB [illegible] training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Devikeerthana

Date: 3/4/23

Training Session Evaluation:

1. **Overall Satisfaction:**
- Very Satisfied
- ✓ Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

2. **Relevance of Training Content:**
- Highly Relevant
- ✓ Relevant
- Somewhat Relevant
- Not Relevant

3. **Clarity of Instruction:**
- Very Clear
- ✓ Clear
- Somewhat Clear
- Unclear

4. **Quality of Training Materials:**
- ✓ Excellent
- Good
- Fair
- Poor

Leena

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5. **Effectiveness of Hands-on Exercises:**
- Very Effective
- ✓ Effective
- Somewhat Effective
- Ineffective

6. **Interaction with Instructor:**
- ✓ Excellent
- Good
- Fair
- Poor

7. **Likelihood of Recommending this Training to Others:**
- Very Likely
- ✓ Likely
- Neutral
- Unlikely
- Very Unlikely

8. **Did the training session encourage you to learn more about LED technology?**
- ✓ Yes
- No

9. **Overall Training Experience:**
- Excellent
- ✓ Good
- Fair
- Poor

10. **Additional Comments or Suggestions:**

Good

Leena

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HANDS ON TRAINING ON PCB DESIGN AND FABRICATION

FEEDBACK FORM

Thank you for participating in our 5-days PCB training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Name: Aswathi PP

Date: 03/04/23

Training Session Evaluation:

1. **Overall Satisfaction:**
- Very Satisfied
- ✓ Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

2. **Relevance of Training Content:**
- ✓ Highly Relevant
- Relevant
- Somewhat Relevant
- Not Relevant

3. **Clarity of Instruction:**
- Very Clear
- ✓ Clear
- Somewhat Clear
- Unclear

4. **Quality of Training Materials:**
- ✓ Excellent
- Good
- Fair
- Poor

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5. **Effectiveness of Hands-on Exercises:**

- ✓ Very Effective
- Effective
- Somewhat Effective
- Ineffective

6. **Interaction with Instructor:**

- Excellent
- ✓ Good
- Fair
- Poor

7. **Likelihood of Recommending this Training to Others:**

- Very Likely
- ✓ Likely
- Neutral
- Unlikely
- Very Unlikely

8. **Did the training session encourage you to learn more about LED technology?**

- ✓ Yes
- No

9. **Overall Training Experience:**

- ✓ Excellent
- Good
- Fair
- Poor

10. **Additional Comments or Suggestions:**

Good

Leena

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Participant Information:

Name: ADHIN.O

Date: 03-04-2023

Training Session Evaluation:

1. **Overall Satisfaction:**
- ✓ Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

2. **Relevance of Training Content:**
- Highly Relevant
- ✓ Relevant
- Somewhat Relevant
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- Fair
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10. **Additional Comments or Suggestions:**

Excellent

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Affiliated to APJ Abdul Kalam Technological University & Approved by AICTE, New Delhi

www.sngcet.ac.in Email-info@sngcet.ac. in

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Presents

Five days Training Program

on

LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM

Participants: Students of EEE

: 08-10-2021 to 12-10-2021

: 09.00 am to 4.30 pm

: LED Bulb Manufacturing unit

Staff Coordinator
Mr. Manu C
Assistant Professor

Dr. LEENA A. V.
PRINCIPAL
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KANNUR

Student Coordinator
Ms. Anusha Jyothi
S5 - EEE

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DEPARTMENTOFELECTRICAL AND ELECTRONICS ENGINEERING

5 DAYS WORKSHOP ON

LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM:

8TH OCTOBER TO 12TH OCTOBER, 2021

DAY 1		
DATE	**TIME**	
10-08-2020	**9.00 AM -9.15 AM**	**Introduction by Coordinator** Mr. Manu C, AP, EEE, SNGCET
	9.15 AM - 9.30AM	**Departmental address by** Mr. Abhilash Krishnan T K HoD EEE, SNGCET
	09:30AM-12:00PM	**Introduction to LED bulb and Soldering** Mr. Manu C, AP, EEE, SNGCET
	02:30PM-4:30PM	**Demonstration practice through hole soldering technique** Mr. Sreeraj. T K Lab Instructor EEE, SNGCET
DAY2		
11-08-2020	**09:30 AM-12:30 PM**	**Soldering Practice** Mr. Manu C, AP, EEE, SNGCET
	01:30PM-4:30PM	**Soldering Practice** Mr. Manu C, AP, EEE, SNGCET
DAY3		
12-08-2020	**09:30 AM-12:30 PM**	**Advanced Soldering Technique and PCB design** Mr. Sreeraj.T K Lab Instructor EEE, SNGCET
	01:30PM-4:30PM	**Trouble Shooting soldering issues on sample board** Mr. Sreeraj.T K Lab Instructor EEE, SNGCET

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DAY 4		
13-08-2020	09:30 AM-12:30 PM	**Over view of LED bulb manufacturing process** Mr. Manu C, AP, EEE, SNGCET
	01:30PM-4:30PM	**Demonstration LED bulb manufacturing.** Mr. Manu C, AP EEE, SNGCET
DAY 5		
14-08-2020	09:30 AM-12:30 PM	**Hands on practice** Mr. Manu C, AP EEE, SNGCET
	01:30PM-3:00PM	**Hands on practice** Mr. Manu C, AP EEE, SNGCET
	3.00 PM-4.30 PM	**Feedback session** From students **Certificate distribution ceremony** Mr. Abhilash Krishnan T K HOD EEE, SNGCET

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LED Bulb Manufacturing with Soldering Practice

Introduction

An LED lamp or LED light bulb is an electric light for use in light fixtures that produces light using one or more light-emitting diodes (LEDs). LED lamps have a lifespan many times longer than equivalent incandescent lamps, and are significantly more efficient than most fluorescent lamps, with some LED chips able to emit up to 303 lumens per watt (as claimed by Cree and some other LED manufacturers). However, LED lamps require an electronic LED driver circuit when operated from mains power lines, and losses from this circuit mean the efficiency of the lamp is lower than the efficiency of the LED chips it uses. The most efficient commercially available LED lamps have efficiencies of 200 lumens per watt (Lm/W).

Similar to incandescent lamps (and unlike most fluorescent lamps), LEDs come to full brightness immediately with no warm-up delay. Frequent switching on and off does not reduce life expectancy as with fluorescent lighting. Light output decreases gradually over the lifetime of the LED (see Efficiency droop section).

Some LED lamps are made to be a directly compatible drop-in replacement for incandescent or fluorescent lamps. LED lamp packaging may show the light output in lumens, the power consumption in watts, the colour temperature in Kelvin or a colour description such as "warm white", "cool white" or "daylight", the operating temperature range, and sometimes the equivalent wattage of an incandescent lamp delivering the same output in lumens.

Flow of Current

LEDs run on direct current (DC), whereas mains current is alternating current (AC) and usually at much higher voltage than the LED can accept. LED lamps can contain a

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circuit for converting the mains AC into DC at the correct voltage. These circuits contain rectifiers, capacitors, and may have other active electronic components, which may also permit the lamp to be dimmed. In an LED filament lamp, the driving circuit is simplified because many LED junctions in series have approximately the same operating voltage as the AC supply.

Description of LED Bulb Machine

Machinery for LED Bulb Unit includes the following:

- Tikki Making Machine
- Punching Machine
- Cutter
- Iron
- Solder
- Nuts
- Paste

These machines are used to produce LED Bulb substance from the raw material. With the help of this machine the work of punching, cutting, pasting completes in a very short span.

LED Bulb Manufacturing Process

- Take Body & diffuser of Bulb separately.
- Adjust in the tikki machine
- Now soldering the PCB with diffuses wire.
- Cut the extra wire in the PCB unit.
- Put B22 cap on the PCB
- Now press it with punching machine.
- Packaging
- Transport.

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Training Objectives:

Understanding LED Technology: Participants were introduced to the fundamentals of LED technology, including the working principles, components, and advantages over traditional lighting sources.

Hands-on Soldering Practice: A significant portion of the training program was dedicated to hands-on soldering practice. Participants worked with actual LED components, circuit boards, and soldering equipment to gain practical experience in soldering connections.

Manufacturing Processes: The training program covered the entire manufacturing process of LED bulbs, from component assembly to final product testing. This included soldering techniques, PCB (Printed Circuit Board) assembly, and encapsulation methods.

Safety Practices: Safety is a top priority in any manufacturing environment. Participants received comprehensive training on safety protocols, including handling of hazardous materials, use of protective equipment, and emergency procedures.

Efficiency and Optimization: Participants learned about lean manufacturing principles and techniques to optimize production processes, minimize waste, and improve overall efficiency.

Training Methodology:

The training program employed a combination of theoretical instruction, demonstrations, and extensive hands-on practice sessions. Participants were provided with soldering stations equipped with soldering irons, solder, flux, and other necessary tools. Experienced instructors supervised the soldering practice and provided feedback and guidance to participants.

Programme Outcomes

After the courses the candidate will learn

- Enhanced understanding of LED technology and its applications.
- Proficiency in various soldering techniques used in LED bulb manufacturing.
- Hands-on experience in soldering connections on LED components and circuit boards.
- Understanding of quality control standards and inspection techniques for soldered joints.
- Ability to troubleshoot and rectify common soldering issues effectively.
- Hands-on experience on LED Bulb Assembling and repairing
- To understand, various electronic & electrical components, materials and their specific properties & usages.

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SYLLABUS

Day 1: Introduction to LED Technology and Soldering Basics

· Morning Session:

Basics of Electricity and Electronics

Introduction to LED technology: principles, components, and applications.

Use of Tools & Soldering Process.

Overview of soldering: types of solder, flux, soldering equipment.

Afternoon Session:

Demonstration: through-hole soldering technique.

Hands-on practice: through-hole soldering exercises.

Day 2: Surface Mount Soldering and Quality Control

Morning Session:

Surface mount soldering: techniques and considerations.

Quality control in soldering: visual inspection standards and defect identification.

Understand the functionality of multi-meter, Explain different modes of testing in multi-meter.

Afternoon Session:

Demonstration: surface mount soldering technique.

Hands-on practice: surface mount soldering exercises.

Day 3: Advanced Soldering Techniques and Troubleshooting

Morning Session:

Advanced soldering techniques: reflow soldering, desoldering, and component replacement.

Troubleshooting soldering issues: common problems and solutions.

PCB Design.

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Afternoon Session:

Practical exercises: troubleshooting soldering issues on sample boards.

Day 4: LED Bulb Manufacturing Process

Morning Session:

Overview of LED bulb manufacturing process: component assembly, PCB assembly

Safety considerations in LED bulb manufacturing.

Afternoon Session:

Demonstration: LED bulb manufacturing process.

Lean manufacturing principles: optimizing production processes and minimizing waste.

Day 5: Optimization, Efficiency, and Final Assessment

Morning Session:

Hands-on practice: assembling LED bulbs with soldered connections and testing

Afternoon Session:

Hands-on practice: assembling LED bulbs with soldered connections and testing

Feedback session: review of individual performance and areas for improvement.

Certification ceremony: distribution of training completion certificates.

Note: Each day will include breaks for refreshments and rest to ensure participants remain engaged and focused throughout the training program. Additionally, instructors will provide continuous guidance and support during hands-on practice sessions to maximize learning outcomes.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM

Registration Form

Date:8/10/2021 to 12/10/2021		Venue: Led Bulb Manufacturing Unit	
Sl.No	**Name of Students**	**Semester**	**Branch**
1	ABHINAV C	S3	EEE
2	ASWATHI PP	S3	EEE
3	AMAL KP	S1	EEE
4	HRISHIKESH	S1	EEE
5	SHINOY BIJU	S1	EEE
6	ANUSHA JYOTHI	S5	EEE
7	VISHAL	S5	EEE
8	P P NIDHIN RAJ	S7	EEE
9	ASWANTH VALSAN MV	S7	EEE
10	NIHAD T	S5	EEE

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LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM

ATTENDANCE SHEET

Date: 8/10/2021 to 12/10/2021

Venue: Led Bulb Manufacturing Unit

		ATTENDANCE				
Sl.No	**Name of Students**	**08-10-2021**	**09-10-2021**	**10-10-2021**	**11-10-2021**	**12-10-2021**
1	ABHINAV C					
2	ASWATHI PP					
3	AMAL KP					
4	HRISHIKESH					
5	SHINOY BIJU					
6	ANUSHA JYOTHI					
7	VISHAL					
8	P P NIDHIN RAJ					
9	ASWANTH VALSAN MV					
10	NIHAD T					

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

REPORT ON LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM

The Department of Electrical and Electronics Engineering conducted Five days LED manufacturing training session and soldering practice for students of Electrical and Electronics Engineering from 8/10/2021 to 12/10/2021. A Total of 10 students participated in the training session. The students gained hands on experience in manufacturing LED bulb.

The event was inaugurated by Dr. Leena A V, Principal, SNGCET. Welcome addresse was delivered by Mr. Abhilash Krishnan (HoD, EEE). Dr. Susan Ebraham (Dean Academics) and Mr. Manu C (AP, EEE) delivered felicitation speech and Ms. Anusha Jyothi, student coordinator delivered vote of thanks. The inaugural session concluded at 10:00 a.m., after which the training session started.

The objective of the 5-days LED manufacturing and soldering practice training program was to provide participants with a comprehensive understanding of LED technology, manufacturing processes, soldering techniques, quality control measures, and troubleshooting methods. Through a combination of theoretical sessions and hands-on practical exercises, the program aimed to equip participants with the necessary skills to excel in LED manufacturing environments.

Participants developed a solid understanding of LED technology, manufacturing processes, and soldering techniques. Hands-on practice enabled participants to gain confidence in handling soldering equipment and performing assembly tasks. Quality control and testing training equipped participants with the ability to identify defects and ensure product quality. Advanced techniques and troubleshooting sessions prepared participants to tackle complex manufacturing issues effectively.

The 5-days LED manufacturing and soldering practice training program successfully provided participants with a well-rounded skill set essential for thriving in LED manufacturing environments. By combining theoretical knowledge with practical experience, participants are now equipped to contribute effectively to the production of high-quality LED products. Continued practice and refinement of these skills will further enhance participants' capabilities in this field.

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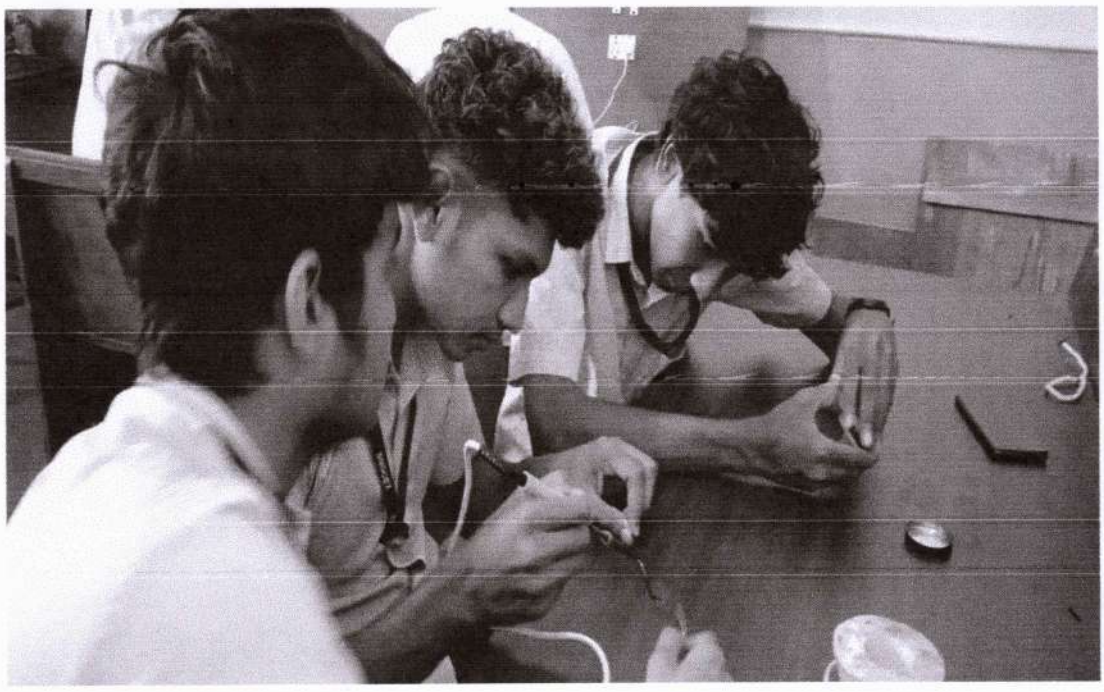

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(Affliated to APJ Abdul Kalam Technological University and Approved by AICTE, New Delhi)
Chalakkode P.O, Payyanur, Kannur-670307, Kerala

CERTIFICATE OF COMPLETION

This is to certify that

VISHAL K

has sucessfully completed Five days training program on LED Bulb manufacturing and soldering practice organised by Department of Electrical and Electronics Engineering from 08-10-2021 to 12-10-2021

Coordinator
Mr. Manu C

Dr. LEENA A. V.
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HoD (EEE)
HoD
Prof. Raveendran K

Pricipal
Dr. Suresan Pareth

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LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM

FEEDBACK FORM

Thank you for participating in our 5-day LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Training Session Evaluation:

1. **Overall Satisfaction:**
- Very Satisfied
- (•) Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

2. **Relevance of Training Content:**
- Highly Relevant
- (•) Relevant
- Somewhat Relevant
- Not Relevant

3. **Clarity of Instruction:**
- (•) Very Clear
- Clear
- Somewhat Clear
- Unclear

4. **Quality of Training Materials:**
- (•) Excellent
- Good
- Fair
- Poor

5. **Effectiveness of Hands-on Exercises:**
- Very Effective

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- Effective
- Somewhat Effective
- Ineffective

6. Interaction with Instructor:

- Excellent
- Good
- Fair
- Poor

7. Likelihood of Recommending this Training to Others:

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

8. Did the training session encourage you to learn more about LED technology?

- Yes
- No

9. Overall Training Experience:

- Excellent
- Good
- Fair
- Poor

10. Additional Comments or Suggestions:

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LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

LED BULB MANUFACTURING & SOLDERING PRACTICE TRAINING PROGRAM

FEEDBACK FORM

Thank you for participating in our 5-day LED bulb training session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Training Session Evaluation:

1. **Overall Satisfaction:**
- (•) Very Satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

2. **Relevance of Training Content:**
- Highly Relevant
- (•) Relevant
- Somewhat Relevant
- Not Relevant

3. **Clarity of Instruction:**
- Very Clear
- (•) Clear
- Somewhat Clear
- Unclear

4. **Quality of Training Materials:**
- Excellent
- (•) Good
- Fair
- Poor

5. **Effectiveness of Hands-on Exercises:**
- Very Effective

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- Effective
- Somewhat Effective
- Ineffective

6. Interaction with Instructor:

- Excellent
- Good
- Fair
- Poor

7. Likelihood of Recommending this Training to Others:

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

8. Did the training session encourage you to learn more about LED technology?

- Yes
- No

9. Overall Training Experience:

- Excellent
- Good
- Fair
- Poor

10. Additional Comments or Suggestions:

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.

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- ✓ Good
- Fair
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- Very Effective

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Payyanur, Kannur, Kerala, Pin-670307
Promoted by Sree Bhakthi Samvardhini Yogam, Kannur
Affiliated to APJ Abdul Kalam Technological University & Approved by AICTE, New Delhi
www.sngcet.ac.in Email-info@sngcet.ac. in

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

Five days Online Program

on

MASTERING HYBRID VEHICLE TECHNOLOGY :- A COMPREHENSIVE ONLINE PROGRAM

Participants- Mechanical Students

From 10/08/2020 to 14/08/2020

Platform : google meet

: 09.00 am to 04.30 pm

Staff Coordinator

Mr. Vaishakh M Nayanar
Assistant Professor
Department of EEE

Dr. LEENA A. V.
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Student Coordinator

Ms. Vishal K
S5- EEE
Department of EEE

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DEPARTMENTOFELECTRICAL AND ELECTRONICS ENGINEERING

5 DAYS WORKSHOP ON

MASTERING HYBRID VEHICLE TECHNOLOGY: A COMPREHENSIVE ONLINE PROGRAM

10TH AUGUEST TO 14TH AUGUEST, 2020

DAY 1		
DATE	**TIME**	
10-08-2020	**9.00 AM -9.15 AM**	**Introduction by coordinator** Mr.Vaishakh M Nayanar AP, EEE, SNGCET
	9.15 AM - 9.30AM	**Departmental address by** Mr. Raveendran K AP, EEE, SNGCET
	09:30AM-12:00PM	**Introduction to Hybrid vehicles** Mr.Vaishakh M Nayanar, AP, EEE, SNGCET
	02:30PM-4:30PM	**Introduction to Hybrid power train** Mr.Abhilash Krishnan T K, AP, EEE, SNGCET
DAY2		
11-08-2020	**09:30 AM-12:30 PM**	**Hybrid Vehicle Technologies** Mr.Vaishakh M Nayanar AP, EEE, SNGCET
	01:30PM-4:30PM	**Transmission systems in Hybrid Vehicles** Mr.Vaishakh M Nayanar AP, EEE, SNGCET
DAY3		
12-08-2020	**09:30 AM-12:30 PM**	**Hybrid vehicle performance and efficiencies** Mr. Vaishakh M Nayanar, AP, EEE, SNGCET

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	01:30PM-4:30PM	**Service of hybrid vehicles** Mr. Vaishakh M Nayanar, AP, EEE, SNGCET
DAY 4		
13-08-2020	**09:30 AM-12:30 PM**	**Design consideration of Hybrid Vehicles** Mr. Vaishakh M Nayanar, AP, EEE, SNGCET
	01:30PM-4:30PM	**Demonstration of working Hybrid Vehicles.** Mr. Vaishakh M Nayanar, AP, EEE, SNGCET
DAY 5		
14-08-2020	**09:30 AM-12:30 PM**	**Hybrid vehicle Simulation Process** Mr. Manu C AP, EEE, SNGCET
	01:30PM-3:00PM	**Test drive practice** Mr. Manu C AP, EEE, SNGCET
	3.00 PM-**4.30** PM	**Feedback session** From students **Certificate distribution ceremony** Mr. Raveendran K HoD Dept. of EEE, SNGCET

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SYLLABUS

Day 1: Introduction to Hybrid Vehicles

Morning Session:

- Overview of Hybrid Vehicles Definition
- types of hybrid vehicles (series, parallel, series-parallel)
- Advantages and challenges of hybrid technology Hybrid Vehicle
- Architecture Components of a hybrid vehicle (electric motor, internal combustion engine, battery, transmission, etc.)
- How hybrid systems work: power flow, regenerative braking, start-stop systems

Afternoon Session:

- Hybrid Powertrains
- Comparison of hybrid powertrain architectures
- Role of the internal combustion engine and electric motor in hybrid propulsion Hybrid Vehicle Control Systems
- Control strategies for optimizing performance and efficiency Introduction to regenerative braking and energy management systems.

Day 2:Hybrid Vehicle Technologies

Morning Session:

- Battery Technologies for Hybrid Vehicles
- Types of batteries used in hybrid vehicles (NiMH, lithium-ion, etc.)
- Battery management systems and thermal management
- Electric Motors and Generators Types of electric motors used in hybrid vehicles (AC induction, permanent magnet, etc.)
- Role of generators in hybrid systems.

Afternoon Session:

- Transmission Systems
- Types of transmissions used in hybrid vehicles (CVT, dual-clutch, etc.)
- Power-split and planetary gear systems
- Energy Storage and Management Charging infrastructure for hybrid vehicles
- Energy storage considerations and optimization techniques

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Day 3: Hybrid Vehicle Performance and Efficiency

Morning Session:

- Performance Characteristics of Hybrid Vehicles Acceleration
- top speed, and towing capacity
- Impact of hybrid technology on vehicle dynamics Fuel Economy and Emissions
- Factors affecting fuel efficiency in hybrid vehicles Emissions reduction strategies and regulatory compliance

Afternoon Session:

- Maintenance and Service of Hybrid Vehicles Routine maintenance procedures
- Safety considerations for working with high-voltage systems
- Hybrid Vehicle Diagnostics Common issues and troubleshooting techniques
- Introduction to diagnostic tools and software

Day4: Integration of Hybrid Technology

Morning Session:

- Hybrid Vehicle Design Considerations
- Vehicle packaging and integration of hybrid components
- Designing for optimal weight distribution and aerodynamics
- Vehicle Electrification Trends
- Market trends and future developments in hybrid and electric vehicles
- Impact of electrification on automotive industry

Afternoon Session:

- Case Studies and Practical Examples
- Review of successful hybrid vehicle designs
- Analysis of real-world performance and efficiency data

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Day 5: Hands-On Workshop and Applications

Morning Session:

- Hybrid Vehicle Simulation Exercises
- Using simulation software to model hybrid vehicle performance
- Analyzing different driving scenarios and their impact on efficiency
- Hybrid Vehicle Component Demonstration
- Hands-on demonstration of hybrid vehicle components
- Safety protocols and procedures for working with hybrid systems

Afternoon Session:

- Hybrid Vehicle Test Drive
- Opportunity for participants to experience driving a hybrid vehicle
- Instructor-led discussion on driving techniques for maximizing efficiency

Q&A and Conclusion

Review of key concepts covered during the program

Opportunity for participants to ask questions and provide feedback

This syllabus provides a comprehensive overview of hybrid vehicle technology, covering theoretical concepts, practical applications, and hands-on experience over the course of five days.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING			
MASTERING HYBRID VEHICLE TECHNOLOGY-A COMPREHENSIVE ONLINE PROGRAM			
Registration Form			
Date:10/08/2020 to 14/08/2020		Venue: Control System Lab	
Sl.No	**Name of Students**	**Semester**	**Branch**
1	SNC18ME001-ABHIRAM M	S7	ME
2	SNC18ME002-ABHIRAM S	S7	ME
3	SNC18ME005-AFNAN ABDUL NASAR	S7	ME
4	SNC18ME006-AKASH M	S7	ME
5	SNC18ME009-ANANDU P	S7	ME
6	SNC18ME010-ARJUN P. K	S7	ME
7	SNC18ME011-ARJUN T.P	S7	ME
8	SNC18ME012-ASWIN O	S7	ME
9	SNC18ME015-JUNAID AHAMED K V	S7	ME
10	SNC18ME017-MOHAMMED YUNUS	S7	ME
11	SNC18ME021-NIKHIL KRISHNA MV	S7	ME
12	SNC18ME022-NIVED . K.	S7	ME
13	SNC18ME025-RAHUL RAVI P M	S7	ME
14	SNC18ME026-REJIL MANOHARAN	S7	ME

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Mastering Hybrid Vehicle Technology: A Comprehensive Online Program

ATTENDANCE SHEET

Date: 10/08/2020 to 14/08/2020

Venue: Control System Lab

		ATTENDANCE				
Sl.No	**Name of Students**	**10-08-2020**	**11-08-2020**	**12-08-2020**	**13-08-2020**	**14-08-2020**
1	SNC18ME001-ABHIRAM M	✓	✓	✓	✓	✓
2	SNC18ME002-ABHIRAM S	✓	✓	✓	✓	✓
3	SNC18ME005-AFNAN ABDUL NASAR	✓	✓	✓	✓	✓
4	SNC18ME006-AKASH M	✓	✓	✓	✓	✓
5	SNC18ME009-ANANDU P	✓	✓	✓	✓	✓
6	SNC18ME010-ARJUN P. K	✓	✓	✓	✓	✓
7	SNC18ME011-ARJUN T.P	✓	✓	✓	✓	✓
8	SNC18ME012-ASWIN O	✓	✓	✓	✓	✓
9	SNC18ME015-JUNAID AHAMED K V	✓	✓	✓	✓	✓
10	SNC18ME017-MOHAMMED YUNUS	✓	✓	✓	✓	✓
11	SNC18ME021-NIKHIL KRISHNA MV	✓	✓	✓	✓	✓
12	SNC18ME022-NIVED . K.	✓	✓	✓	✓	✓
13	SNC18ME025-RAHUL RAVI P M	✓	✓	✓	✓	✓
14	SNC18ME026-REJIL MANOHARAN	✓	✓	✓	✓	✓

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Mastering Hybrid Vehicle Technology: A Comprehensive Online Program

Introduction

Hybrid vehicles represent a pivotal advancement in automotive technology, blending traditional internal combustion engines with electric propulsion systems. This innovative synergy addresses the growing concerns of environmental sustainability, fuel efficiency, and reduced emissions. In this introductory session, we will delve into the fundamental concepts of hybrid vehicles, exploring their definition, classification, and the underlying principles driving their adoption world wide.A hybrid vehicle is a transportation mode that integrates two or more distinct power sources to propel the vehicle forward. Typically, this includes an internal combustion engine (ICE) fueled by gasoline or diesel, alongside an electric motor powered by rechargeable batteries. This dynamic combination allows hybrid vehicles to optimize fuel efficiency, reduce emissions, and enhance overall performance compared to conventional vehicles solely reliant on ICE.

Classification of Hybrid Vehicles:

Hybrid vehicles come in various configurations, each offering unique benefits and operational characteristics.

The primary classifications include:

1. Series Hybrid: In this configuration, the electric motor is solely responsible for propelling the vehicle, with the ICE acting as a generator to recharge the battery pack. Parallel Hybrid: Here, both the ICE and electric motor can independently power the vehicle, providing flexibility in utilizing either or both power sources depending on driving conditions.

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2. Series-Parallel Hybrid: Combining elements of both series and parallel configurations, this hybrid type offers a balance between efficiency and performance by seamlessly switching between power modes as needed.

Advantages of Hybrid Vehicles:

The adoption of hybrid technology brings forth a myriad of advantages, including: Fuel Efficiency: By harnessing the regenerative braking capabilities and electric propulsion, hybrid vehicles achieve significantly higher fuel efficiency ratings compared to traditional ICE vehicles. Emissions Reduction: The integration of electric propulsion systems results in lower greenhouse gas emissions and pollutants, contributing to cleaner air and mitigating environmental impact. Enhanced Performance: Hybrid vehicles often exhibit improved torque delivery, smoother acceleration, and reduced engine strain, translating to a more refined driving experience. Regenerative Braking: Through regenerative braking, kinetic energy that would otherwise be lost during deceleration is captured and stored in the battery, further enhancing efficiency. As we embark on this journey to explore the intricacies of hybrid vehicles, we aim to unravel the underlying technologies, design considerations, and real-world applications that continue to revolutionize the automotive landscape. Together, we will navigate through the complexities of hybrid propulsion, unveiling the sustainable future of transportation that lies ahead.

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Promoted by : Sree Bhakthi Samvardhini Yogam, Kannur

Affiliated to APJ Abdul Kalam Technological University (KTU) & Recognised by AICTE, New Delhi

ESTD 2003

CERTIFICATE OF PARTICIPATION

This certificate is presented to

ABHIRAM S **of** **SNGCET- PAYYANUR**

for participating 5 days program on

MASTERING HYBRID VEHICLE TECHNOLOGY-A COMPREHENSIVE ONLINE PROGRAM

dated 10-08-2020 to 14-08-2020

Organized by

Department of Electrical & Electronics Engineering

COORDINATOR

Dr. LEENA A. V.
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KANNUR

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(EEE)

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
Mastering Hybrid Vehicle Technology: A Comprehensive Online Program
FEEDBACK

Sl No	Name	Email ID	Feedback Questions	Ratings
1	ABHIRAM M	abbhi123@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Good
			Whether the technical aspects during the workshop satisfactory?	Good
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
2	ABHIRAM S	abhiabhi15@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
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			Did the workshop covers emerging trend or advancements in the field	Excellent
3	AFNAN ABDUL NASAR	afnanafnu@gmail.com	Overall how would you rate the training class?	Good
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent
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4	AKASH M	akashm321@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
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			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
5	ANANDU P	nanduanadu@gmail.com	Overall how would you rate the training class?	Excellent
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			Did the workshop covers emerging trend or advancements in the field	Good
6	ARJUN P K	pkarjuarjun@gmail.com	Overall how would you rate the training class?	Excellent
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			Whether the interactive elements engaging and beneficial?	Excellent
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			Did this class meet your expectation?	Excellent
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			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
7	ARJUN T P	arjuntparju@gmail.com	Overall how would you rate the training class?	Good
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			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
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			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
8	ASWIN O	oaswin123@gmail.com	Overall how would you rate the training class?	Excellent
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			Did this class meet your expectation?	Excellent
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			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
9	JUNAID AHAMMED	marveljunaid@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Good
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
10	MUHAMMED YUNUS	yunus4433@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Good
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
			Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent

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11	NIKHIL KRISHNA M V	mvnikhil321@gmail.com	Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Good
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
12	NIVED K	knived9988@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent

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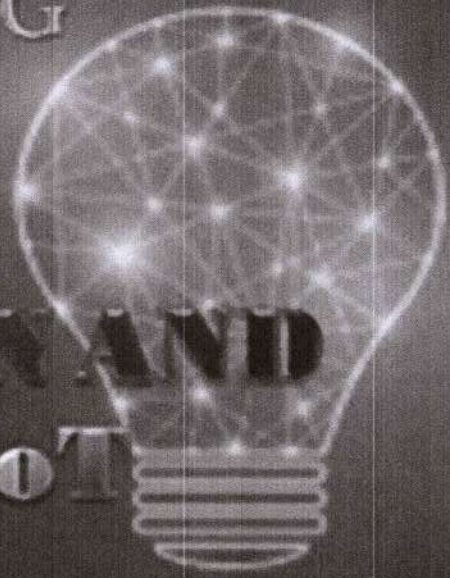
(Promoted by Sree Bhakthi Samvardhini Yogam,Talap,Kannur)
Chalakode P O,Payyanur,Kannur-670307

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

PRESENTS

WORKSHOP ON



INDUSTRIAL AUTOMATION AND INTRODUCTION TO IoT

By

MR.AJITH.P

INSTUCTOR,DEPT.OF ELECTRICAL AND ELECTRONIC ENGINEERING GCEK,KANNUR

Dr. LEENA A. V.
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27/12/2019 to 31/12/2019

VENUE : SOFTWARE LAB

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

5 Days Workshop on INDUSTRIAL AUTOMATION AND INTRODUCTION TO IoT

27th to 31th December, 2019

DAY 1		
Date	**Time**	
27-12-2019	09:00 AM-09:15 AM	**Introduction by Coordinator** Mr. Abhilash Krishnan T K, Assistant Professor Dept. of EEE, SNGCET
	09:15AM -09:30 AM	**Departmental address by** Mr. Raveendran K HoD Dept. of EEE, SNGCET
	09:30AM-12:00PM	**Introduction to Industrial Automation** Mr. Ajith P. Instructor Dept. of EEE, GCEK
	02:30PM-4:30PM	**Case Studies Showcasing real world application** Mr. Ajith P. Instructor Dept. of EEE, GCEK

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DAY 2		
28-12-2019	09:00AM-12:30 PM	**Fundamentals of control systems** Mr. Ajith P. Instructor Dept. of EEE, GCEK
	01:30 PM-4:30 PM	**Introduction to PID systems** Mr. Ajith P. Instructor Dept. of EEE, GCEK
DAY 3		
29-12-2019	09:00 AM-12:30 PM	**Introduction to PLCs** Mr. Ajith P. Instructor Dept. of EEE, GCEK
	01:30 PM-4:00 PM	**Hands-on exercises on PLC programming and simulation** Mr. Ajith P. Instructor Dept. of EEE, GCEK

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DAY 4		
30-12-2019	09:00 AM-12:30 AM	**Introduction to HMI and SCADA systems** Mr. Ajith P. Instructor Dept. of EEE, GCEK
	01:30PM-4:30PM	**Hands-on session on HMI development and SCADA configuration** Mr. Ajith P. Instructor Dept. of EEE, GCEK
DAY 5		
31-12-2019	09:00 AM-12:30 PM	**Introduction to Internet of Things (IoT) and Integration with Industrial Automation** Mr. Ajith P. Instructor Dept. of EEE, GCEK
	01:30PM-3:45PM	**Challenges of integrating industrial automation with IoT & case studies** Mr. Ajith P. Instructor Dept. of EEE, GCEK
	3.45 PM -4.30 PM	**Feedback session** From students

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FIVE DAY WORKSHOP ON INDUSTRIAL AUTOMATION AND INTRODUCTION TO IOT

Introduction

Industrial automation and the Internet of Things (IoT) have revolutionized the way industries operate, enhancing efficiency, productivity, and safety. To provide participants with comprehensive insights into these transformative technologies, we are delighted to introduce a five-day workshop on Industrial Automation and Introduction to IoT.

Workshop Objectives:

Comprehensive Understanding: Participants will gain a thorough understanding of industrial automation principles, technologies, and their applications across various industries.

Hands-On Experience: Through practical sessions and demonstrations, participants will acquire hands-on experience with industrial automation systems, including Programmable Logic Controllers (PLCs), Human-Machine Interface (HMI), and Supervisory Control and Data Acquisition (SCADA) systems.

Introduction to IoT: The workshop will provide an introduction to the Internet of Things (IoT) and its integration with industrial automation, exploring IoT architecture, applications, and benefits.

Real-World Case Studies: Participants will examine real-world case studies and examples to understand the practical implementation of industrial automation and IoT in different industrial settings.

Future Trends and Opportunities: The workshop will conclude with discussions on emerging trends, challenges, and career opportunities in the fields of industrial automation and IoT.

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SYLLABUS

Day 1: Introduction to Industrial Automation

Morning Session:

- Definition and significance of industrial automation
- Evolution of industrial automation
- Components of an industrial automation system

Afternoon Session:

- Advantages and challenges of industrial automation
- Case studies showcasing real-world applications

Day 2: Fundamentals of Control Systems

Morning Session:

- Basic concepts of control systems
- Types of control systems (open loop, closed loop)
- Sensors and actuators in control systems

Afternoon Session:

- Feedback mechanisms
- Introduction to PID control and its applications

Day 3: Programmable Logic Controllers (PLCs)

Morning Session:

- Introduction to PLCs
- Architecture and components of PLCs
- Programming languages used in PLCs (Ladder Logic, Function Block Diagram, etc.)

Afternoon Session:

- PLC communication protocols
- Hands-on exercises on PLC programming and simulation

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Day 4: Human-Machine Interface (HMI) and SCADA Systems

Morning Session:

- Introduction to HMI and SCADA systems
- Role of HMI and SCADA in industrial automation
- Design principles for HMI development

Afternoon Session:

- SCADA architecture and components
- Hands-on session on HMI development and SCADA configuration

Day 5: Introduction to Internet of Things (IoT) and Integration with Industrial Automation

Morning Session:

- Definition and characteristics of IoT
- Applications of IoT in industrial settings
- IoT architecture and components

Afternoon Session:

- Benefits and challenges of integrating industrial automation with IoT
- Case studies and demonstrations showcasing IoT integration in industrial automation systems

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FIVE DAY WORKSHOP ON INDUSTRIAL AUTOMATION AND INTRODUCTION TO IoT

Registration Form

Date: 27/12/2019 to 31/12/2019 | Venue: Software Lab

Sl.No	Name of Students	Semester	Branch
1	SNC15EE011 - SANJAY GANGAN K	S7	EEE
2	SNC16EE001 -AJAY P	S7	EEE
3	SNC16EE002 -DEVIKA SATHISH	S7	EEE
4	SNC16EE003 -KIRAN RAJI VIJAYAN	S7	EEE
5	SNC16EE005 -MUHAMMED NAZEEM M	S7	EEE
6	SNC16EE007 -SHINITH K.V	S7	EEE
7	SNC16EE008 - SIDHARTH PT	S7	EEE
8	SNC16EE009 -VAISHNAV P	S7	EEE
9	SNC17EE001-ANUSREE PRAKASH	S5	EEE
10	SNC17EE002 -GAGANA V	S5	EEE
11	SNC17EE003 - GREESHMA P	S5	EEE
12	SNC17EE004 -MANASA K	S5	EEE
13	SNC17EE005 - MEGHARAJ C H	S5	EEE
14	SNC17EE006 -MUHAMMAD NABEEL	S5	EEE
15	SNC17EE007 -VAISHAKH M.M	S5	EEE
16	SNC17EE008 -VIVEK VALSAN	S5	EEE
19	SNC17EE009 - YADUKRISHNAN V V	S5	EEE

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FIVE DAY WORKSHOP ON INDUSTRIAL AUTOMATION AND INTRODUCTION TO IoT

ATTENDANCE SHEET

Date: 27/12/2019 to 31/12/2019 | Venue: Software Lab

Sl.No	Name of Students	ATTENDANCE				
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16	SNC17EE008 -VIVEK VALSAN					
17	SNC17EE009 - YADUKRISHNAN V V					

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Report On Five Day Workshop On Industrial Automation And Introduction To Iot

The Department of Electrical and Electronics Engineering conducted Five-day workshop on industrial automation and introduction to IoT for students of Electrical and Electronics Engineering from 27/12/2019 to 31/12/2019. A Total of 17 students participated in the training session.

The event was inaugurated by Dr. V K Janardhanan, Principal, SNGCET. Welcome address was delivered by Prof. Raveeendran K.(HoD, EEE). Dr. Leena A.V. (Dean Academics) and Mr. Abhilash Krishnan T.K. (AP, EEE) delivered felicitation speech and, student coordinator Mr. Shinith K.V. delivered vote of thanks. The inaugural session concluded at 10:00 a.m., after which the training session started. The session was conducted by Mr. Ajith P. (Instructor, Department of Electrical and Electronics Engineering, GCEK,Kannur)

The workshop aimed to provide students with a comprehensive understanding of industrial automation principles, technologies, and their integration with the Internet of Things (IoT). The workshop included theoretical sessions, hands-on activities, and discussions on real-world applications.

On the first day, students were introduced to the concept and significance of industrial automation. They learned about the evolution of industrial automation, its components, advantages, and challenges. The second day focused on the fundamentals of control systems. Students learned about different types of control systems, sensors, actuators, and feedback mechanisms. The concept of PID control was introduced, followed by practical exercises to reinforce the theoretical knowledge. Day three was dedicated to Programmable Logic Controllers (PLCs). Participants received an overview of PLCs, their architecture, programming languages, and communication protocols. The fourth day covered Human-Machine Interface (HMI) and Supervisory Control and Data Acquisition (SCADA) systems. Participants learned about the role of HMI and SCADA in industrial automation, design principles, and configuration methods. The final day focused on IoT and its integration with industrial automation. Students learned about IoT architecture, applications, and the benefits of integration with industrial systems.

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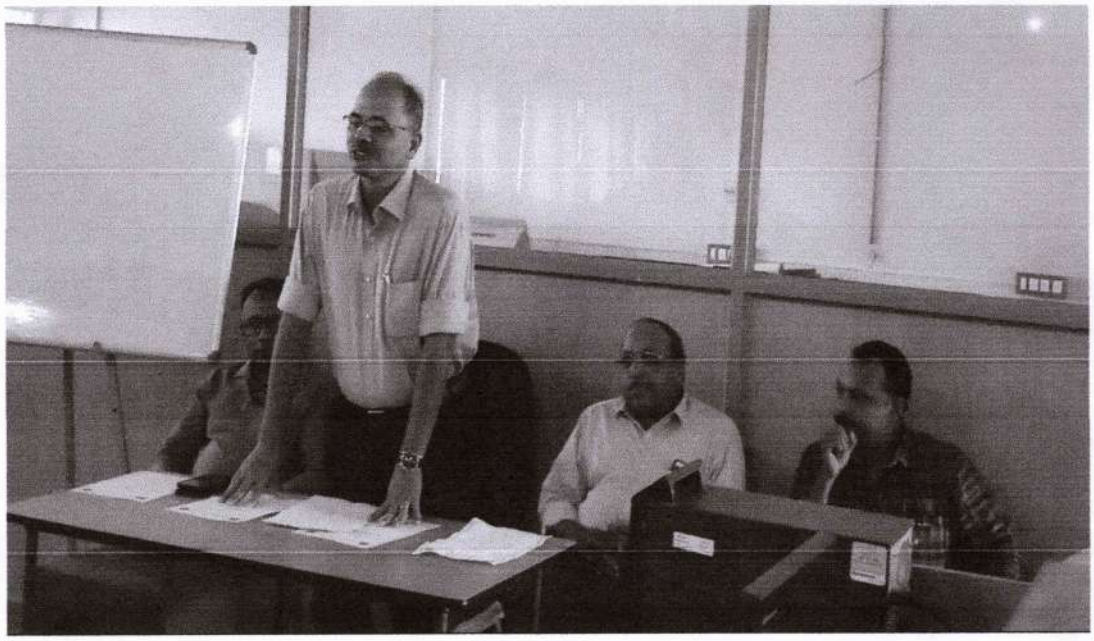
The five-day workshop provided students with a comprehensive understanding of industrial automation and IoT. Through a combination of theoretical sessions and hands-on activities, students gained practical knowledge and skills that can be applied in their respective industries. The workshop received positive feedback from students, who expressed appreciation for the interactive sessions and valuable insights provided by the instructors.



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ESTD 2003

Promoted by : Sree Bhakthi Samvardhini Yogam, Kannur

Affiliated to APJ Abdul Kalam Technological University (KTU) & Recognised by AICTE, New Delhi

CERTIFICATE OF PARTICIPATION

This certificate is presented to

YADUKRISHNAN V V **of** **SNGCET- PAYYANUR**

for participating 5 days program on

INDUSTRIAL AUTOMATION AND INTRODUCTION TO IoT

dated 27/12/2019 to 31/12/2019

Organized by

Department of Electrical & Electronics Engineering

COORDINATOR

Dr. LEENA A. V.
PRINCIPAL
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ENGINEERING & TECHNOLOGY, PAYYANUR
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(EEE)

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

WORKSHOP ON INDUSTRIAL AUTOMATION AND INTRODUCTION TO IOT

FEEDBACK FORM

Thank you for participating in our 5-day Workshop On Industrial Automation And Introduction To Iot.Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Training Session Evaluation:

1. **Overall Satisfaction:**
- Very Satisfied
- (•) Satisfied
- Neutral
- Dissatisfied
- Very Dissatisfied

2. **Relevance of Training Content:**
- Highly Relevant
- (•) Relevant
- Somewhat Relevant
- Not Relevant

3. **Clarity of Instruction:**
- (•) Very Clear
- Clear
- Somewhat Clear
- Unclear

4. **Quality of Training Materials:**
- Excellent
- (•) Good
- Fair
- Poor

5. **Effectiveness of Hands-on Exercises:**
- Very Effective

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- Effective
- Somewhat Effective
- Ineffective

6. Interaction with Instructor:

- Excellent
- (•) Good
- Fair
- Poor

7. Likelihood of Recommending this Training to Others:

- Very Likely
- (•) Likely
- Neutral
- Unlikely
- Very Unlikely

8. Did the training session encourage you to learn more about LED technology?

- (•) Yes
- No

9. Overall Training Experience:

- Excellent
- (•) Good
- Fair
- Poor

10. Additional Comments or Suggestions:

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.

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Payyanur, Kannur, Kerala, Pin-670307
Promoted by Sree Bhakthi Samvardhini Yogam, Kannur
Affiliated to APJ Abdul Kalam Technological University & Approved by AICTE, New Delhi

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

CRAFTING WITH CAD- A 5 DAYS WORKSHOP SERIES

Our Resource Person

Mr. Jacob Thomas
HoD
Department of Mechanical Engineering
Govt. Poly Technic, Periya, Kasaragod

Date : 26/12/2018 to 30/12/2018

Venue : Software Lab

Time : 09.00AM to 04.30 PM

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

Staff Coordinator

Mr. Abhilash Krishnan TK
Assistant Professor
Department of EEE

Student Coordinator

Mr. Vishnu Unnikrishnan
S7- EEE
Department of EEE

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CRAFTING WITH CAD: A 5 DAYS WORKSHOP SERIES

26th December to 31st December, 2021

DAY1		
Date	**Time**	
26-12-2018	09:00 AM-09:15 AM	**Introduction by Coordinator** Ms. Prabha Chandran Assistant Professor Dept.ofEEE,SNGCET
	09:15AM -09:30 AM	**Departmental address by** Mr. Raveendran K HoD Dept.ofEEE,SNGCET
	09:30AM-12:00PM	**Introduction to CAD** Mr. Jacob Thomas H od Department of Mechanical Engineering Govt.Polytechnic College , Periya
	02:30PM-4:30PM	**Introduction to Drawings** Mr. Jacob Thomas H od Department of Mechanical Engineering Govt.Polytechnic College , Periya

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DAY2		
27-12-2018	09:00 AM-12:30 PM	**Drawing Commands of CAD** Mr. Jacob Thomas H od Department of Mechanical Engineering Govt.Polytechnic College , Periya
	01:30PM-4:30PM	**Modifying Commands of CAD** Mr. Jacob Thomas H od Department of Mechanical Engineering Govt.Polytechnic College , Periya
DAY3		
28-12-2018	09:00 AM-12:30 PM	**Explanation of 2D drawings for the familiarization of Drawing and Modifying Commands** Mr. Jacob Thomas H od Department of Mechanical Engineering Govt.Polytechnic College , Periya
	01:30 PM-4:30 PM	**Practical Session :2D drawings for the familiarization of Drawing and Modifying Commands** Mr. Jacob Thomas H od Department of Mechanical Engineering Govt.Polytechnic College , Periya

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DAY4		
29-12-2018	09:30AM-12:30AM	**Introduction to toolbar and explanation of properties of drawing** Mr.Jacob Thomas Hod Department of Mechanical Engineering Govt.Polytechnic College , Periya
	01:30PM-4:30PM	**Practical Session** Mr.Jacob Thomas Hod Department of Mechanical Engineering Govt.Polytechnic College , Periya
DAY5		
30-12-2018	09:00AM-12:30PM	**Plotting and presentation of hard copies** Mr.Jacob Thomas Hod Department of Mechanical Engineering Govt.Polytechnic College , Periya
	01:30PM-3:00PM	**Practical Session** Mr.Jacob Thomas Hod Department of Mechanical Engineering Govt.Polytechnic College , Periya
	3.00 PM -4.30 PM	**Feedback session** From students **Certificate distribution ceremony** Mr. Raveendran K HoD Dept. of EEE, SNGCET

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SYLLABUS

"Crafting with CAD: A 5-Day Workshop Series"

Day	9.00 AM to 12.00PM	1.00 PM to 4.00 PM
Day1	➢ Introduction to Computer hardware and peripherals ➢ Input output devices ➢ Windows operating system ➢ Auto CAD application software in the platform of Windows. ➢ Control bar, pull down menu, status bar, workspace, ➢ Snap, Grid, Ortho mode O snap, O track, Line weight, dynamic UCS, Model space and paper space ➢ WCS and UCS ➢ Coordinate system and References ➢ Absolute system of reference ➢ Incremental system of reference ➢ Polar system of reference ➢ Limits and Units	➢ Practical session ➢ Simple 2D drawings ➢ Based on :WCS and UCS ➢ Coordinate system and References ➢ Absolute system of reference ➢ Incremental system of reference ➢ Polar system of reference ➢ Limits and Units
Day2	**Drawing commands** Line, Construction line Multi lines, Poly lines Rectangle, Polygons Arc, Circle, Splines Ellipse, Ellipse arc Make block and Insert block Point, Hatch, Gradient, Region Multiline text. Table.	**Modifying Commands** Erase, Copy Mirror, Offset Array- Circular and Rectangular Move, Rotate, Scale Stretch, Trim, Extend Break, Join Fillet and Chamfer Blend curves and Explode
Day 3	Practical session 2D drawings for the familiarization of Drawing and Modifying Commands	Practical session 2D drawings for the familiarization of Drawing and Modifying Commands
Day4	Tool bars	Practical Session

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	Tool pallets Design center External reference files Properties of drawings And Editing	2D drawings of Electrical circuits to familiarize the easiest and fastest methods for drawing requirements.
Day5	Formats- layer, line type, Line weight, Text style, Dimension style, Point style, Multi leader style, Multi line style, Table style. Dimensioning Plotting and presentation of hard copies	Practical Session Drawing various type of Electrical circuits and Printing or Plotting.

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CRAFTING WITH CAD - A 5 DAYS WORKSHOP

Registration Form

Date: 26/12/2018 to 30/12/2018 | Venue: Software Lab

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CRAFTING WITH CAD - A 5 DAYS WORKSHOP

ATTENDANCE SHEET

Date: 26/12/2018 to 30/12/2018		Venue: Software Lab				
		ATTENDANCE				
Sl.No	**Name of Students**	**26-12-2018**	**27-12-2018**	**28-12-2018**	**29-12-2018**	**30-12-2018**
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

REPORT ON CRAFTING WITH CAD: A 5-DAY WORKSHOP SERIES

The Department of Electrical andElectronics Engineering conducted Fivedaysworkshop on "**Crafting with CAD: A 5-Day Workshop Series"** for students of Electrical andElectronics Engineering from 26/12/2018 to 30/12/2018. A Total of 11 students participated in the training session. The students gained knowledge on recent trends in hybrid vehicle and the increasing demand in this technology

The event was inaugurated by Prof. Raveendran K, (HoD, EEE). Welcome addresse was delivered by Mr. Abhilash Krishnan (AP, EEE). Dr. Leena A V (Dean Academics delivered felicitation speech and Mr. Vishnu Unnikrishnan, student coordinator delivered vote of thanks. The inaugural session concluded at 9.30 a.m., after which the training session started.

The objective of the 5-days **Crafting with CAD: A 5-Day Workshop Series**The objective of the Crafting with CAD workshop is to equip participants with the knowledge, skills, and practical experience necessary to proficiently utilize Computer-Aided Design (CAD) software in their respective fields. Through hands-on training, interactive sessions, and practical exercises, the workshop aims to achieve the following objectives: Understanding CAD Fundamentals , Developing Proficiency in 2D and 3D Modelling ,Exploring Industry Applications ,Enhancing Design Visualization and Communication ,Optimizing Design and Production Processes Encouraging Creative Problem-Solving.Developing Proficiency in 2D and 3D ModelingExploring Industry ApplicationsEnhancing Design Visualization and Communication:Optimizing Design and Production Processes Encouraging Creative Problem-Solving

Dr. LEENA A. V.
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SREE NARAYANA GURU COLLEGE of ENGINEERING & TECHNOLOGY

Promoted by : Sree Bhakthi Samvardhini Yogam, Kannur

Affiliated to APJ Abdul Kalam Technological University (KTU) & Recognised by AICTE, New Delhi

ESTD 2003

CERTIFICATE OF PARTICIPATION

This certificate is presented to

AJAY P **of** **SNGCET- PAYYANUR**

for participating 5 days program on

CRAFTING WITH CAD

dated 26/12/2018 to 30/12/2018

Organized by

Department of Electrical & Electronics Engineering

COORDINATOR

Dr. LEENA A. V.
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(EEE)

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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

"Crafting with CAD: A 5-Day Workshop Series"

FEEDBACK FORM

Thank you for participating in our 5-day **"Crafting with CAD: A 5-Day Workshop Series"** session. Your feedback is valuable to us as we strive to continuously improve our training programs. Please take a few moments to share your thoughts and suggestions regarding the training you received.

Participant Information:

Training Session Evaluation:

1. **Overall Satisfaction:**
   - Very Satisfied
   - ✓ Satisfied
   - Neutral
   - Dissatisfied
   - Very Dissatisfied
2. **Relevance of Training Content:**
   - ✓ Highly Relevant
   - Relevant
   - Somewhat Relevant
   - Not Relevant
3. **Clarity of Instruction:**
   - ✓ Very Clear
   - Clear
   - Somewhat Clear
   - Unclear
4. **Quality of Training Materials:**

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- Excellent
- Good
- Fair
- Poor

5. **Effectiveness of Hands-on Exercises:**

- Very Effective
- Effective
- Somewhat Effective
- Ineffective

6. **Interaction with Instructor:**

- Excellent
- Good
- Fair
- Poor

7. **Likelihood of Recommending this Training to Others:**

- Very Likely
- Likely
- Neutral
- Unlikely
- Very Unlikely

8. **Did the training session encourage you to learn more about LED technology?**

- Yes
- No

9. **Overall Training Experience:**

- Excellent
- Good
- Fair
- Poor

Thank you for taking the time to complete this feedback form. Your input is essential for us to enhance the quality of our training programs. Please return this form before leaving.

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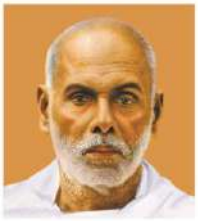
Est. 2003

Sree Narayana Guru College of Engineering & Technology

CHALAKKODE P.O., KOROM, PAYYANUR, KANNUR-670 307



DEPARTMENT OF MECHANICAL ENGINEERING

Sree Narayana Guru College of Engineering & Technology

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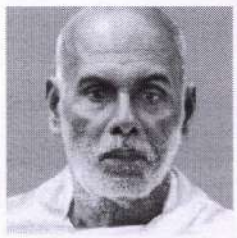
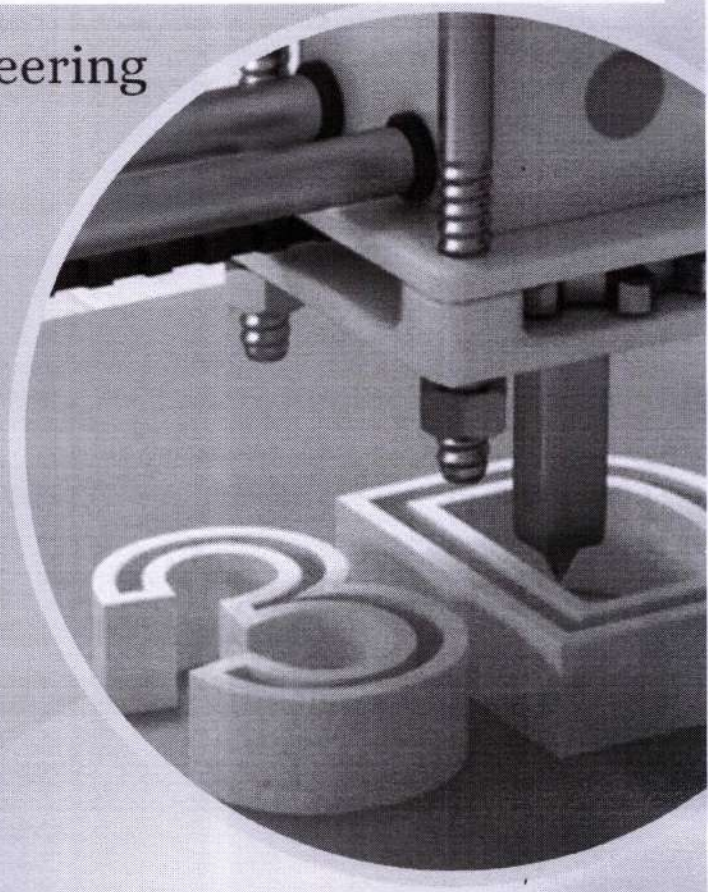


Department of Mechanical Engineering

Organising

5 DAYS WORKSHOP ON 3D PRINTING



Exclusively For Final Year Students

Key Highlights

- Self Development Design
- 3D Printing Trends
- Challenges in 3D Printing
- Post Processing Operations

13-17 March 2023

9.00 AM - 5.00 PM

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5 Day Workshop on 3D Printing, March 13-17, 2023

DAY 1		
Date	**Time**	
13-03-2023 (Monday)	9:00 AM-9:10 AM	**Introduction** **by** **Coordinator** Dr. Sudhin Chandran, Dept. of ME, SNGCET
	9:10 AM-9:15 AM	**Departmental address by** Mr. Jacob Thomas HoD, Dept. of ME, SNGCET
	9:15 AM-12:00 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: State of the art of 3D printing application.**
	01:00 PM-5:00 PM	**Expert talk by** Mr. Jacob Thomas Asst. Professor Dept of Mechanical Engineering, SNGCET **Title: 3D Printing technology steps, 3D Printing application fields, 3D Printing equipment, 3D Printing approach to build parts and assemblies.**

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DAY 2		
14-03-2023 (Tuesday)	9:00 AM-12:30 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: 3D Printing process steps for 3D printing an object, post-processing operations for 3D printed objects.**
	01:30 PM-5:00 PM	**Expert talk by** Mr. Jacob Thomas Asst. Professor Dept of Mechanical Engineering, SNGCET **Title: 3D Printing approach to build parts and assemblies, post-processing operations for 3D printed objects.**
DAY 3		
15-03-2023 (Wednesday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Pradeepkumar V. Instructor ME, GCE Kannur. **Title: 3D Printed Energy Storage Devices for Flexible and Wearable Electronics**
	01:30 PM-5:00 PM	**Expert talk by** Dr. Solamon Joseph, Lecturer ME, GPC Periye, Kasargod. **Title: Challenges and advantages of 3D printing.**

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Day 4		
16-03-2023 (Thursday)	09:00 AM-12:00 PM,	**Expert talk by** Govardhan Kayarthaya B, Lecturer ME, GPC Periye, Kasargod. **Title: Technology Drivers for 3D printing, Knowledge on 3D printer software**
	01:00 PM-5:00 PM	**Expert talk by** Dr. Solamon Joseph, Lecturer ME, GPC Periye, Kasargod. **Title: 3D Printing technology, 3D Printing process steps for 3D printing an object**.
DAY 5		
17-03-2023 (Friday)	9:00 AM-12:30 PM	**Expert talk by** Govardhan Kayarthaya B, Lecturer ME, GPC Periye, Kasargod. **Title: post-processing operations for 3D printed objects.**
	01:30 PM-5:00 PM	**Expert talk by** Mr. Jacob Thomas Asst. Professor Dept of Mechanical Engineering, SNGCET **Title: Opportunity to design and print self-developed design.**

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DEPARTMENT OF MECHANICAL ENGINEERING

SYLLABUS FOR 3D PRINTING

Professional Skills(Trade Practical)	Professional Knowledge(Trade Theory)
1. Importance of trade training, List of tools & Machinery used in the trade. 2. First Aid Method and basictraining. 3. Safe disposal of waste materials like cotton waste,metal chips/burrs etc. 4. Hazard identification and avoidance. 5. Safety signs for Danger, Warning, caution & personal safety message. 6. Preventive measures forelectrical accidents & steps to be taken in such accidents. 7. Use of Fire extinguishers. 8. Practice and understand precautions to be followed while working in fitting jobs. 9. Demonstrate the functionsof 3D printing and Scanning. 10. Demonstrate the functions of 3D printing and Scanning. Perform Computer operation: i)create new folder, ii) add subfolders, create application files, iv) change appearance of windows, v) search for files, vi) sort files, vii) copy files, viii) create shortcut folder, ix) create shortcut icon in desktop and taskbar x) Move files to and from removable disk/ flash drive. xi) Install a printer from driver software in operating system. 11. Create, save and print a document, worksheet and pdf (portable document format) files. 12. Draw perpendicular, inclined (given angle) and parallel lines. Draw triangles with given sides and angles. 13. Draw inscribed and circumscribed circles of triangle, pentagon andhexagon. 14. Draw orthographic projection of cut section/ frustums of solids- prism, cylinders, cones, pyramids.	All necessary guidance to be provided to the new comers to become familiar with the working of Industrial Training Institute system including storesprocedures. Soft Skills, its importance and Job area after completion of training. Importance of safety and general precautions observed inthe in the industry/shop floor. Introduction of First aid. Operation of electrical mainsand electrical safety. Introduction of PPEs. Response to emergencies e.g.; power failure, fire, and system failure. **Importance of housekeeping & good shop floor practices.** Introduction to 5S concept & its application. **Occupational Safety & Health**: Health, Safety and Environment guidelines, legislations & regulations as applicable. Introduction to 3D Printing and Scanning. Basic computer: Introduction to computer, Windows operating system, file management system. Computer hardware and software specification. **Engineering Drawing**: Nomenclature, description and use of drawing instruments & various equipments used in drawing office. Their care and maintenance. Units of dimensioning, System of dimensioning, Method of dimensioning & common features. Methods of obtaining orthographic view. Position of the object, selection of the views, three views of drawing. Planes and their normal projections. Orthographic projection. First angle and third

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15. Draw 2D objects using: line, polyline, ray, polygon, circle, rectangle, arc, ellipse commands.
16. Modify 2D objects using Move, Copy, Array, Insert Block, Make Block, Scale, Rotate, Hatch Commands.
17. Perform computer application in 2D drawing space using commands from ribbon, menu bar, toolbars and by typing in command prompt.
18. Modify 2D objects using Move, Copy, Array, Insert Block, Make Block, Scale, Rotate, Hatch Commands.
19. Draw 3D solid figures by Sketching features & applied features.
20. Handle imported geometries using Feature Works – Recognise features to native file formats.
21. Create a 3D transition figure
    - Using loft feature.
    - Using sweep feature.
    - Using library features.

i)Create 3D model by annotating Holes and Threads, ii) Create Centrelines, symbols and leaders, iii) Perform seamless Simulation within CAD Apply loads & boundary conditions, Material should come from part definition, contacts etc and perform base simulation.

iv)Plot various results- Stress, Strain, Deformation, Displacement, Factor of Safety plot, Design Insight plot, probe facility, Isoclipping, Section clipping. v) Create automatic reports vi) Understand 2D simplification.

22. Learn Data Translation – Built in translation facility to export design to DWG, DXF, ProE, IPT(Inventor), Mechanical Desktop, Unigraphics, ParaSolid, CADKEY, IGES, STEP, .PAR (SolidEdge), SAT(ACIS), VDA-FS, VRML, STL, TIFF,JPG, Adobe, Rhino, IDF & HSF.(20 hrs)

angle projection. Principal of orthographic projection. Projection of solids like prism, cones, pyramids and their frustums.

Introduction to 2D User interface. Drawing of Line, polyline, ray, polygon, circle, rectangle, arc, ellipse using different options. Trim, Offset, Fillet, Chamfer, Arc and Circle under modify commands. Move, Copy, Array, Insert Block, Make Block, Scale, Rotate, Hatch Commands. Creating templates, Inserting drawings, Layers, Modify Layers. Format dimension style, creating new dimension style, Modifying styles in dimensioning. Writing text on dimension line and on leader. Edit text dimension. Knowledge of shortcut keyboard command. Customization of keyboard command. Customization of drafting settings, changing orthographic snap to isometric snap. Procedure to create viewport in layout space in zooming scale.

3D Modeling and Design Software: Introduction to 3D Modeling and Software. User interface - Menu Bar – Command manager – Feature manager – Design Tree – settings on the Default options – suggested settings – key board short cuts. Feature manager Design Tree Selection of plane Control of sketches through parameter and property manager. Featured tools in Command Manager Feature Toolbar. Extrude Boss/Base Revolve Boss/Base Swept Boss/Base Lofted Boss/Base Boundary Boss/Base Extruded cut Hole Wizard Revolved Cut Boundary Cut Fillet, chamfer, mirror Linear pattern and circular pattern Understanding part GD&T with DimXpert Manager

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DEPARTMENT OF MECHANICAL ENGINNERING

Report of the Session on WORKSHOP ON 3D PRINTING

The Department of Mechanical Engineering (ME) and organized the "Workshop on 3D Printing" from March 13th to March 17th 2023, at 10 AM in Mechanical department's seminar hall. The aim of the workshop is to make students aware about concept & importance of 3D printing Technology. The workshop was also attended by the staffs of SNGCET. The session commenced with a welcoming address from the event coordinator, Dr. Sudhin Chandran, Assistant Professor of ME, expressing appreciation to participants and faculties for their whole-hearted support.

The workshop started with welcoming guest by respected Head of the Department Mr. Jacob Thomas. The workshop was divided in two sessions, in first session Dr. Abdul Nazar K P has presented and explained to students about back ground of how 3D printing technology evolved. He also explained about the various types of 3D printing technology available in market and how they differ in printing object. In the Second session, Mr. Jacob Thomas demonstrated on 3D printer which they have brought by 3D printing a small component in printer. While demonstration was going on simultaneously sir has also explained about type of raw material required for 3D printing. Sir also explained that depending upon the raw material how the product quality varies and also cost of the component.

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The session focusing on 3D Printing at the workshop proved highly successful, equipping students with knowledge and practical skills for utilizing 3D printers in industrial settings. Participants thoroughly covered all fundamental aspects of 3D printing technology. Exceptionally positive feedback was received from the students regarding their learning experience during the workshop. Such initiatives play a pivotal role in preparing students for the contemporary challenges and opportunities they will encounter. Attendees departed the session with renewed inspiration and a steadfast determination to further refine their concepts, with the aim of making a positive impact on the world through their innovative endeavors. The session, featuring informative presentations and insightful discussions, undoubtedly enriched the academic atmosphere at SNGCET.

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON 3D PRINTING

STUDENT LIST

S.NO	NAME	SEMESTER
1	ADARSH.P.K	S8
2	ADWAIDH BALAN	S8
3	ANURAG A	S8
4	ASWANTH.C	S8
5	ATHUL.B	S8
6	BIPIN.K	S8
7	FARHAN.C	S8
8	JASIN.P	S8
9	MOHAMMED AAFIL ISMAYIL.M.K	S8
10	MRIDUL.C	S8
11	NITHIN.A	S8
12	SANDESH K DINESH	S8
13	ARJUN SHYLESH	S6
14	ASHISH K	S6
15	ASHWIN JOHN	S6
16	ASWIN BABU M V	S6
17	MOHAMMED SHAD ABDUL SATHAR	S6
18	SOURAG K	S6
19	ARJUN SHYLESH	S6
20	ASHISH K	S6

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON 3D PRINTING

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3	ANURAG A	S8	
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DAY 2 ATTENDENCE LIST

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4	ASWANTH.C	S8	
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6	BIPIN.K	S8	
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14	ASHISH K	S6	
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5 DAY WORKSHOP ON 3D PRINTING

DAY 3 ATTENDENCE LIST

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5	ATHUL.B	S8	
6	BIPIN.K	S8	
7	FARHAN.C	S8	
8	JASIN.P	S8	
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18	SOURAG K	S6	
19	ARJUN SHYLESH	S6	
20	ASHISH K	S6	

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANNUR KANNUR

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON 3D PRINTING

DAY 4 ATTENDENCE LIST

S.NO	NAME	SEM	SIGN
1	ADARSH.P.K	S8	
2	ADWAIDH BALAN	S8	
3	ANURAG A	S8	
4	ASWANTH.C	S8	
5	ATHUL.B	S8	
6	BIPIN.K	S8	
7	FARHAN.C	S8	
8	JASIN.P	S8	
9	MOHAMMED AAFIL ISMAYIL.M.K	S8	
10	MRIDUL.C	S8	
11	NITHIN.A	S8	
12	SANDESH K DINESH	S8	
13	ARJUN SHYLESH	S6	
14	ASHISH K	S6	
15	ASHWIN JOHN	S6	
16	ASWIN BABU M V	S6	
17	MOHAMMED SHAD ABDUL SATHAR	S6	
18	SOURAG K	S6	
19	ARJUN SHYLESH	S6	
20	ASHISH K	S6	

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KANNUR

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON 3D PRINTING

DAY 5 ATTENDENCE LIST

S.NO	NAME	SEM	SIGN
1	ADARSH.P.K	S8	
2	ADWAIDH BALAN	S8	
3	ANURAG A	S8	
4	ASWANTH.C	S8	
5	ATHUL.B	S8	
6	BIPIN.K	S8	
7	FARHAN.C	S8	
8	JASIN.P	S8	
9	MOHAMMED AAFIL ISMAYIL.M.K	S8	
10	MRIDUL.C	S8	
11	NITHIN.A	S8	
12	SANDESH K DINESH	S8	
13	ARJUN SHYLESH	S6	
14	ASHISH K	S6	
15	ASHWIN JOHN	S6	
16	ASWIN BABU M V	S6	
17	MOHAMMED SHAD ABDUL SATHAR	S6	
18	SOURAG K	S6	
19	ARJUN SHYLESH	S6	
20	ASHISH K	S6	

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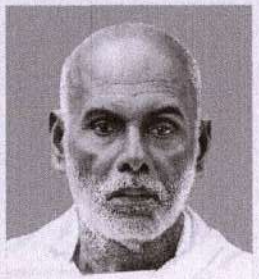

CERTIFICATE OF PARTICIPATION

This is to certify that **Sandesh K Dinesh** of **Sree Narayana Guru College of Engineering and Technology** has attended the Five day workshop on **3D Printing** organized by the **Department of Mechanical Engineering, Sree Narayana Guru College of Engineering and Technology** from 13/03/2023 to 17/03/2023

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY PAYYANUR

Dr. Sudhin Chandran
Co-ordinator

Mr. Jacob Thomas
Head of the Department

Dr. LEENA A V
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

Dr. Leena A V
Principal

Adarsh P.K
58

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

5 DAY WORKSHOP ON 3D PRINTING

FEEDBACK FORM

Submitted by the Department of Mechanical Engineering

	Excellent	Good	Fair	Poor
1. Overall how would you rate the training class?	☑	☐	☐	☐
2. How would you rate the trainer's communication and presentation skills	☐	☑	☐	☐
3. Were the interactive elements engaging and beneficial	☑	☐	☐	☐
4. Did you receive enough opportunity for questions and clarification during the session	☐	☑	☐	☐
5. Did this class meet your expectation	☐	☑	☐	☐
6. Were the hands-on activities beneficial in understanding concepts	☑	☐	☐	☐
7. Did the workshop offer practical strategies or tools that you can readily apply	☐	☑	☐	☐
8. Were the technical aspects during the workshop satisfactory	☑	☐	☐	☐
9. Rate the level of interaction between the facilitator and participants	☐	☑	☐	☐
10. Did the workshop covers emerging trend or advancements in the field	☑	☐	☐	☐

Leena

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KANNUR

ADWAIDH BALAN
S8

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

5 DAY WORKSHOP ON 3D PRINTING

FEEDBACK FORM

Submitted by the Department of Mechanical Engineering

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1. Overall how would you rate the training class?	☑	☐	☐	☐
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7. Did the workshop offer practical strategies or tools that you can readily apply	☐	☑	☐	☐
8. Were the technical aspects during the workshop satisfactory	☐	☑	☐	☐
9. Rate the level of interaction between the facilitator and participants	☐	☑	☐	☐
10. Did the workshop covers emerging trend or advancements in the field	☐	☑	☐	☐

Leena

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Anurag A
58

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

5 DAY WORKSHOP ON 3D PRINTING

FEEDBACK FORM

Submitted by the Department of Mechanical Engineering

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1. Overall how would you rate the training class?	☐	☑	☐	☐
2. How would you rate the trainer's communication and presentation skills	☐	☑	☐	☐
3. Were the interactive elements engaging and beneficial	☐	☐	☑	☐
4. Did you receive enough opportunity for questions and clarification during the session	☑	☐	☐	☐
5. Did this class meet your expectation	☑	☐	☐	☐
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8. Were the technical aspects during the workshop satisfactory	☐	☐	☑	☐
9. Rate the level of interaction between the facilitator and participants	☐	☐	☑	☐
10. Did the workshop covers emerging trend or advancements in the field	☐	☑	☐	☐

Leena

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Aswanth. C
58

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

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FEEDBACK FORM

Submitted by the Department of Mechanical Engineering

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1. Overall how would you rate the training class?	☐	☑	☐	☐
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9. Rate the level of interaction between the facilitator and participants	☑	☐	☐	☐
10. Did the workshop covers emerging trend or advancements in the field	☑	☐	☐	☐

Leena

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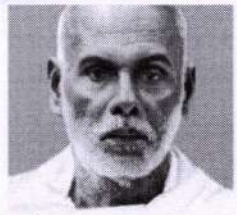

Department of Mechanical Engineering

Organising

5 DAYS WORKSHOP ON ADDITIVE MANUFACTURING

Key Highlights :

- Powder metallurgy
- Sheet Lamination
- Powder Mixing
- Material Extrusion

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

DATE
18-22 October 2021

TIME
09.00 AM - 05.00 PM

REGISTER NOW

Exclusively for Final Year students

5 Day Online Workshop on ADDITIVE MANUFACTURING, October 18 to 22, 2021

DAY 1		
Date	**Time**	
18-10-2021	9:00 AM-9:15 AM	**Introduction by Coordinator** Mr. Manuraj T V, Dept. of ME, SNGCET
	9:15 AM-9:25 AM	**Departmental address by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET
	9:30 AM-12:30 PM	**Expert talk by** Dr. Solamon Joseph, Lecturer ME, GPC Periye, Kasargod. **Title: Introduction to Additive Manufacturing (**Overview of Additive Manufacturing (AM) technologies, Historical development and current trends in AM,**)**
	01:30 PM-5:00 PM	**Expert talk by** Dr. Solamon Joseph, Lecturer ME, GPC Periye, Kasargod. **Title: Introduction to Additive Manufacturing (**Types of 3D printing processes (FDM, SLA, SLS, etc, Basic principles of CAD modeling for 3D printing.)

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DAY 2		
19-10-2021	9:00 AM-12:00 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: AM Technologies and Materials (**In-depth look at different AM technologies, Selection criteria for choosing appropriate AM technology,**)**
	01:00 PM-5:00 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: AM Technologies and Materials (**Materials used in additive manufacturing (polymers, metals, ceramics, Material properties and their impact on print quality and applications))
DAY 3		
20-10-2021	9:00 AM-12:30 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: Design for Additive Manufacturing (DFAM) (**Principles of Design for Additive Manufacturing (DFAM), Design guidelines and considerations for AM,**)**
	01:30 PM-5:00 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: Design for Additive Manufacturing (DFAM) (**Optimizing designs for strength, weight reduction, and functionality, Designing for support structures and post-processing considerations)

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DAY 4		
21-10-2021	09:00 AM-12:00 PM,	**Expert talk by** Mr. Jacob Thomas, Worshop Superintendent, GPC Periye, Kasargod. **Title: Advanced AM Topics** (Post-processing techniques (cleaning, curing, heat treatment, finishing, Quality control and inspection methods for AM parts,
	01:00 PM-5:00 PM	**Expert talk by** Mr. Jacob Thomas, Worshop Superintendent, GPC Periye, Kasargod. **Title: Advanced AM Topics** (Simulation tools for predicting AM outcomes, Integration of AM with traditional manufacturing processes (hybrid manufacturing))
DAY 5		
22-10-2021	9:00 AM-12:00 PM	**Expert talk by** Mr. Jacob Thomas, Worshop Superintendent, GPC Periye, Kasargod. **Title: Industrial Applications and Future Directions** (Industry-focused case studies showcasing successful integration of AM in production workflows.)
	1:00 PM-5:00 PM	**Expert talk by** Mr. Jacob Thomas Worshop Superintendent, GPC Periye, Kasargod. **Title: Industrial Applications and Future Directions** (Regulatory considerations and standards for AM in critical sectors (e.g., medical devices, aerospace), Closing remarks, certificate distribution, and networking opportunities.)

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY ONLINE WORKSHOP ON ADDITIVE MANUFACTURING

SYLLABUS

Day 1: Introduction to Additive Manufacturing

- Overview of Additive Manufacturing (AM) technologies
- Historical development and current trends in AM
- Types of 3D printing processes (FDM, SLA, SLS, etc.)
- Basic principles of CAD modeling for 3D printing

Day 2: AM Technologies and Materials

- In-depth look at different AM technologies (FDM, SLA, SLS, DMLS, etc.)
- Selection criteria for choosing appropriate AM technology
- Materials used in additive manufacturing (polymers, metals, ceramics)
- Material properties and their impact on print quality and applications

Day 3: Design for Additive Manufacturing (DFAM)

- Principles of Design for Additive Manufacturing (DFAM)
- Design guidelines and considerations for AM
- Optimizing designs for strength, weight reduction, and functionality
- Designing for support structures and post-processing considerations

Day 4: Advanced AM Topics

- Post-processing techniques (cleaning, curing, heat treatment, finishing)
- Quality control and inspection methods for AM parts
- Simulation tools for predicting AM outcomes
- Integration of AM with traditional manufacturing processes (hybrid manufacturing)

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Day 5: Industrial Applications and Future Directions

- Industry-focused case studies showcasing successful integration of AM in production workflows.
- Regulatory considerations and standards for AM in critical sectors (e.g., medical devices, aerospace).
- Closing remarks, certificate distribution, and networking opportunities.

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY ONLINE WORKSHOP ON ADDITIVE MANUFACTURING

NAME LIST

S.NO	NAME	SEMESTER
1	ABHIRAM M	S8
2	ABHIRAM S	S8
3	ABHISHEK DHANARAJ	S8
4	AMALJITH PUTHUSSERY	S8
5	JUNAID AHAMED K V	S8
6	MOHAMMED YUNUS	S8
7	MUHAMMAD SHAMIR K	S8
8	MUHAMMED AJMAL ABDULLA	S8
9	NIKHIL KRISHNA MV	S8
10	NIVED . K.	S8
11	VIJIL P	S8
12	VISHNU JAYENDRAN P V	S8

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY ONLINE WORKSHOP ON ADDITIVE MANUFACTURING

ATTENDENCE LIST

S.NO	NAME	SEMESTER	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
1	ABHIRAM M	S8	P	P	P	P	P
2	ABHIRAM S	S8	P	P	P	P	P
3	ABHISHEK DHANARAJ	S8	P	P	P	P	P
4	AMALJITH PUTHUSSERY	S8	P	P	P	P	P
5	JUNAID AHAMED K V	S8	P	P	P	P	P
6	MOHAMMED YUNUS	S8	P	P	P	P	P
7	MUHAMMAD SHAMIR K	S8	P	P	P	P	P
8	MUHAMMED AJMAL ABDULLA	S8	P	P	P	P	P
9	NIKHIL KRISHNA MV	S8	P	P	P	P	P
10	NIVED . K.	S8	P	P	P	P	P
11	VIJIL P	S8	P	P	P	P	P
12	VISHNU JAYENDRAN P V	S8	P	P	P	P	P

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DEPARTMENT OF MECHANICAL ENGINNERING

5 DAY ONLINE WORKSHOP REPORT ON ADDITIVE MANUFACTURING

The Department of Mechanical Engineering (ME) conducted the "Workshop on Additive Manufacturing" from October 18th to October 22th, 2021, commencing at 9 AM in the seminar hall of the Mechanical department. This workshop was tailored for final year mechanical students and was also attended by staff members from SNGCET. Due to COVID 19 outbreak the workshop was conducted through google meet.

The event began with a welcoming address from Mr. Manuraj T V, Assistant Professor of ME and the event coordinator, who expressed gratitude to all participants and faculty members for their enthusiastic support.

Mr. Chandrajith E, the esteemed Head of the Department, extended a warm welcome to kick off the workshop. Expert insights were shared by Dr. Abdul Nazar K P, Dr. Solamon Joseph, and Mr. Jacob Thomas.

Over the course of five days, the workshop aimed to equip participants with comprehensive knowledge and practical skills in the field of 3D printing technologies, covering technology fundamentals, materials, design considerations, advanced topics, and hands-on experience.

The initial day focused on introducing participants to additive manufacturing, covering the history and evolution of 3D printing technologies, as well as the various types of AM processes. Participants gained understanding of different 3D printing technologies and learned how to select the appropriate one based on project requirements. Material aspects of additive manufacturing, including properties and their impact on print quality and applications, were also discussed.

The Additive Manufacturing Workshop was deemed successful, with participants gaining a solid understanding of 3D printing technologies and practical skills in designing and manufacturing parts using additive techniques. Positive feedback was received from attendees, highlighting the value of hands-on experience and the comprehensive coverage of AM topics. Participants departed the workshop equipped to apply additive manufacturing principles in their respective fields, contributing to the ongoing advancement of this rapidly evolving technology.

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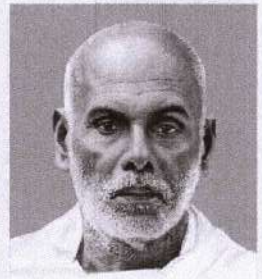

CERTIFICATE OF PARTICIPATION

This is to certify that **Nived K** of **Sree Narayana Guru College of Engineering and Technology** has attended the online workshop on **Additive Manufacturing** organized by the **Department of Mechanical Engineering, Sree Narayana Guru College of Engineering and Technology** from 18/10/2021 to 22/10/2021.

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PAYYANUR

Mr. Manuraj T V
Co-ordinator

Mr. Chandrajith E
Head of the Department

Dr. V K Janardhanan
Principal

Sree Narayana Guru College of Engineering & Technology
CHALAKKODE P.O., KOROM, PAYYANUR, KANNUR-670 307
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FEEDBACK FORM

Sl No	Name	Email ID	Feedback Questions	Ratings
1	ABHIRAM M	abhiabhi007@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
2	ABHIRAM S	abhiramabhi15@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Good
			Whether the technical aspects during the workshop satisfactory?	Good
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
3	JUNAID AHAMED K V	ahamedkv@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
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			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent

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4	ABHISHEK DHANARAJ	dhanarajabhi010@gmail.com	Overall how would you rate the training class?	Good
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Good
			Rate the level of interaction between the facilitator and participants.	Good
			Did the workshop covers emerging trend or advancements in the field	Excellent
5	AMALJITH PUTHUSSERY	amaljithgreat14@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
6	MUHAMMAD SHAMIR K	shamir9745@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Good

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7	MOHAMMED YUNUS	yunus1437@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
8	VIJIL P	vijilppnair12@gmail.com	Overall how would you rate the training class?	Good
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
9	NIKHIL KRISHNA MV	nikhilmv777@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Good
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent

10	MUHAMMED AJMAL ABDULLA	ajmalmuh3652@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Good
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
11	NIVED . K	nivu88@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
12	VISHNU JAYENDRAN P V	vish078@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Good
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent

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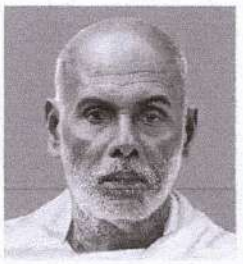

Department of Mechanical Engineering

Organising

5 Days Workshop

on

RENEWABLE ENERGY: PATHWAYS AND TECHNOLOGIES

Key Highlights:

- Solar PV System
- Introduction to Hydroelectric Power
- Field Trip or Virtual Tour
- Energy Storage and Grid Integration
- Opportunities in Renewable Energy

15-19 Feb 2021

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Exclusively for Final Year Students

5 Day Online Workshop on RENEWABLE ENERGY: PATHWAYS AND TECHNOLOGIES, February 15-19, 2021

DAY 1		
Date	**Time**	
15-02-2021 (Monday)	9:00 AM-9:15 AM	**Introduction by Coordinator** Mr. Manuraj T V, Dept. of ME, SNGCET
	9:15 AM-9:25 AM	**Departmental address by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET
	9:30 AM-12:30 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Introduction to Renewable Energy** (Overview of Renewable Energy Sources, Importance of Renewable Energy in Sustainable Development)
	01:30 PM-5:00 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Introduction to Renewable Energy** (Solar Energy Technologies, Photovoltaic (PV))

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DAY 2		
16-02-2021 (Tuesday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Aswin P Assistant Professor, Dept of ME, SNGCET **Title: Wind and Hydroelectric Power** (Wind Energy Fundamentals, Wind turbine technology and design, Offshore vs onshore wind farms, Introduction to Hydroelectric Power, Types of hydroelectric systems)
	01:30 PM-5:00 PM	**Expert talk by** Mr. Aswin P Assistant Professor, Dept of ME, SNGCET **Title: Wind and Hydroelectric Power (**Small Hydropower and Micro-Hydro Systems, Wind and Hydro Energy Integration in Power Grids, Case Study: Wind Farm or Hydroelectric Project Analysis)
DAY 3		
17-02-2021 (Wednesday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Manuraj T V Assistant Professor, Dept of ME, SNGCET **Title: Bioenergy and Geothermal Energy (**Bioenergy Overview, Biomass sources and conversion technologies, Biogas production and applications, Geothermal Energy Basics, Geothermal heat pumps, Geothermal power generation).
	01:30 PM-5:00 PM	**Expert talk by** Mr. Manuraj T V Assistant Professor, Dept of ME, SNGCET **Title: Bioenergy and Geothermal Energy (**Environmental and Social Impacts of Bioenergy, Geothermal Exploration and Reservoir Engineering.)

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DAY 4		
18-02-2021 (Thursday)	09:00 AM-12:00 PM,	**Expert talk by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET **Title: Energy Storage and Grid Integration** (Importance of Energy Storage in Renewable Energy Systems, Battery Technologies for Grid-Scale and Off-Grid Applications, Overview of Pumped Hydro Storage and Other Storage Methods.)
	01:00 PM-5:00 PM	**Expert talk by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET **Title: Energy Storage and Grid Integration** (Smart Grid Technologies and Demand Response, Grid Integration Challenges and Solutions, Case Studies on Successful Renewable Energy Grid Integration.)
DAY 5		
19-02-2021 (Friday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Policy, Economics, and Future Trends** (Renewable Energy Policies and Incentives, Financing Renewable Energy Projects, Techno-Economic Analysis of Renewable Energy Systems.)
	01:30 PM-5:00 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Policy, Economics, and Future Trends** (Emerging Trends in Renewable Energy Research and Development, Role of Innovation and Entrepreneurship in Renewable Energy.)

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY ONLINE WORKSHOP ON RENEWABLE ENERGY: PATHWAYS AND TECHNOLOGIES

SYLLABUS

Day 1: Introduction to Renewable Energy

Morning Session

- Overview of Renewable Energy Sources
- Importance of Renewable Energy in Sustainable Development
- Global Energy Trends and Renewable Energy Targets

Afternoon Session

- Solar Energy Technologies
- Photovoltaic (PV) systems
- Concentrated Solar Power (CSP)
- Hands-on Activity: Solar PV System Design Exercise

Day 2: Wind and Hydroelectric Power

Morning Session

- Wind Energy Fundamentals
- Wind turbine technology and design
- Offshore vs. onshore wind farms
- Introduction to Hydroelectric Power
- Types of hydroelectric systems

Afternoon Session

- Small Hydropower and Micro-Hydro Systems
- Wind and Hydro Energy Integration in Power Grids
- Case Study: Wind Farm or Hydroelectric Project Analysis

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Day 3: Bioenergy and Geothermal Energy

Morning Session

- Bioenergy Overview
- Biomass sources and conversion technologies
- Biogas production and applications
- Geothermal Energy Basics
- Geothermal heat pumps
- Geothermal power generation

Afternoon Session

- Environmental and Social Impacts of Bioenergy
- Geothermal Exploration and Reservoir Engineering
- Field Trip or Virtual Tour: Geothermal Site Visit or Biomass Facility

Day 4: Energy Storage and Grid Integration

Morning Session

- Importance of Energy Storage in Renewable Energy Systems
- Battery Technologies for Grid-Scale and Off-Grid Applications
- Overview of Pumped Hydro Storage and Other Storage Methods

Afternoon Session

- Smart Grid Technologies and Demand Response
- Grid Integration Challenges and Solutions
- Case Studies on Successful Renewable Energy Grid Integration

Day 5: Policy, Economics, and Future Trends

Morning Session

- Renewable Energy Policies and Incentives
- Financing Renewable Energy Projects
- Techno-Economic Analysis of Renewable Energy Systems

Afternoon Session

- Emerging Trends in Renewable Energy Research and Development
- Role of Innovation and Entrepreneurship in Renewable Energy
- Panel Discussion: Future Outlook and Opportunities in Renewable Energy

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY ONLINE WORKSHOP ON RENEWABLE ENERGY: PATHWAYS AND TECHNOLOGIES

STUDENT NAME LIST

S.NO	NAME	SEMESTER
1	ABDULLA K K	S8
2	ABHIJITH K M	S8
3	AKSHAY SURENDRAN P	S8
4	ARJUN RAVEENDRAN K A P	S8
5	ARUN C	S8
6	MOHAMMED SAIF ABDUL RAUF	S8
7	MUHAMMED P P	S8
8	MUHAMMED RAIHAN	S8
9	SALMAN SADIQUE	S8
10	DEEPTH PURUSHOTHAMAN	S8
11	FAHEEM ALI	S8
12	SUFIYAN BIN ABDUL NASSAR	S8

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY ONLINE WORKSHOP ON RENEWABLE ENERGY: PATHWAYS AND TECHNOLOGIES

ATTENDENCE LIST

S.NO	NAME	SEMESTER	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
1	ABDULLA K K	S8	P	P	P	P	P
2	ABHIJITH K M	S8	P	P	P	P	P
3	AKSHAY SURENDRAN P	S8	P	P	P	P	P
4	ARJUN RAVEENDRAN K A P	S8	P	P	P	P	P
5	ARUN C	S8	P	P	P	P	P
6	MOHAMMED SAIF ABDUL RAUF	S8	P	P	P	P	P
7	MUHAMMED P P	S8	P	P	P	P	P
8	MUHAMMED RAIHAN	S8	P	P	P	P	P
9	SALMAN SADIQUE	S8	P	P	P	P	P
10	DEEPTH PURUSHOTHAMAN	S8	P	P	P	P	P
11	FAHEEM ALI	S8	P	P	P	P	P
12	SUFIYAN BIN ABDUL NASSAR	S8	P	P	P	P	P

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DEPARTMENT OF MECHANICAL ENGINNERING

REPORT ON 5 DAY ONLINE WORKSHOP ON TOPIC RENEWABLE ENERGY: PATHWAYS AND TECHNOLOGIES

The online workshop titled "Renewable Energy: Pathways and Technologies," organized by SNGCET from February 15th to 19th, 2021, provided a comprehensive exploration of fundamental principles and practices within renewable engineering. Its objective was to offer participants deep insights into diverse renewable energy sources, their applications, and the technologies propelling the shift towards sustainable energy systems. Due to the COVID outbreak the session was conducted online via Google Meet. The online workshop began promptly at 10 am, with Mr. Manuraj TV, the coordinator, delivering an insightful introduction on the subject. The departmental address followed, presented by Mr. Chandrajith E, the esteemed Head of the Mechanical Engineering Department at SNGCET.

The workshop commenced by overviewing renewable energy sources, with a focus on solar, wind, hydro, biomass, and geothermal energy. Discussions underscored the global energy landscape and the pivotal role of renewables in achieving carbon neutrality. Participants engaged in detailed explorations of solar photovoltaic (PV) and wind energy systems, covering design fundamentals, technological advancements, and strategies for project implementation. Case studies were presented highlighting successful solar and wind projects worldwide. Furthermore, the workshop addressed hydroelectricity, biomass energy production, and geothermal energy utilization. Experts shared valuable insights into extracting energy from water resources, organic waste, and heat from the Earth's crust.

The "Renewable Energy: Pathways and Technologies" workshop proved to be a valuable platform for exchanging knowledge and building capacity. Participants gained practical insights and resources to contribute towards expediting the global shift to renewable energy. Ongoing collaboration and learning are crucial for overcoming obstacles and realizing the complete potential of sustainable energy solutions. The workshop attracted participants, including faculty members keen on sustainable engineering. Interactive Q&A sessions following each presentation fostered dynamic discussions, allowing participants to seek clarification on sustainable design topics.

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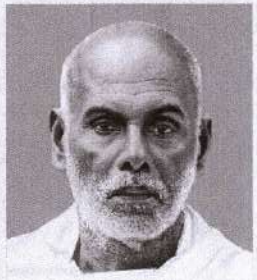

CERTIFICATE OF PARTICIPATION

This is to certify that **Abhijith KM** of **Sree Narayana Guru College of Engineering and Technology** has attended the workshop on **Renewable Energy:Pathways and Technologies** organized by the **Department of Mechanical Engineering, Sree Narayana Guru College of Engineering and Technology** from 15/02/2021 to 19/02/2021.

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY PAYYANUR

Mr. Manuraj T V
Co-ordinator

Dr. LEENA A. V.
PRINCIPAL
SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY, PAYYANUR
KANNUR

Mr. Chandrajith E
Head of the Department

Dr. V K Janardhanan
Principal

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5 DAYS WORKSHOP ON RENEWABLE ENERGY: PATHWAYS AND TECHNOLOGIES(15 TO 19 FEB 2021)

Sl No	Name	Email ID	Feedback Questions	Ratings
1	Abdulla K K	abdulla007@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Good
			Whether the technical aspects during the workshop satisfactory?	Good
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
2	Abhijith K m	abhiabhi15@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
3	Akshay Surendran P	akshaysurendran@gmail.com	Overall how would you rate the training class?	Good
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Good
			Rate the level of interaction between the facilitator and participants.	Good
			Did the workshop covers emerging trend or advancements in the field	Excellent
4	Arjun Raveendran K A P	arjunrk@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent

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5	Arun C	itsarun@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Good
6	Mohammed Saif Abdul Rauf	saifabdulrauf986@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
7	Muhammed P P	muhammed9495@gmail.com	Overall how would you rate the training class?	Good
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
			Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Good
			Whether the interactive elements engaging and beneficial?	Excellent

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8	Muhammed Rahan	rahanrahi@gmail.com	Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
9	Salman Sadique	salmansadique777@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Good
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
10	Faheem Ali	faheemfahi1515@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Good
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
11	Sufiyan Bin Abdul Nassar	sufiyanbinabdulnassar88@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Good
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent
12	Deepth Purushothaman	deepthp007@gmail.com	Overall how would you rate the training class?	Excellent
			How would you rate the trainer's communication and presentation skills?	Excellent
			Whether the interactive elements engaging and beneficial?	Excellent
			Did you receive enough opportunity for questions and clarification during the session?	Excellent
			Did this class meet your expectation?	Excellent
			Did the workshop offer practical strategies or tools that you can readily apply	Excellent
			Whether the technical aspects during the workshop satisfactory?	Excellent
			Rate the level of interaction between the facilitator and participants.	Excellent
			Did the workshop covers emerging trend or advancements in the field	Excellent

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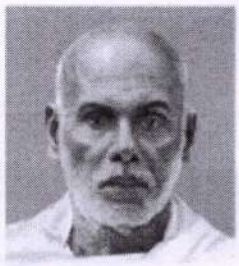
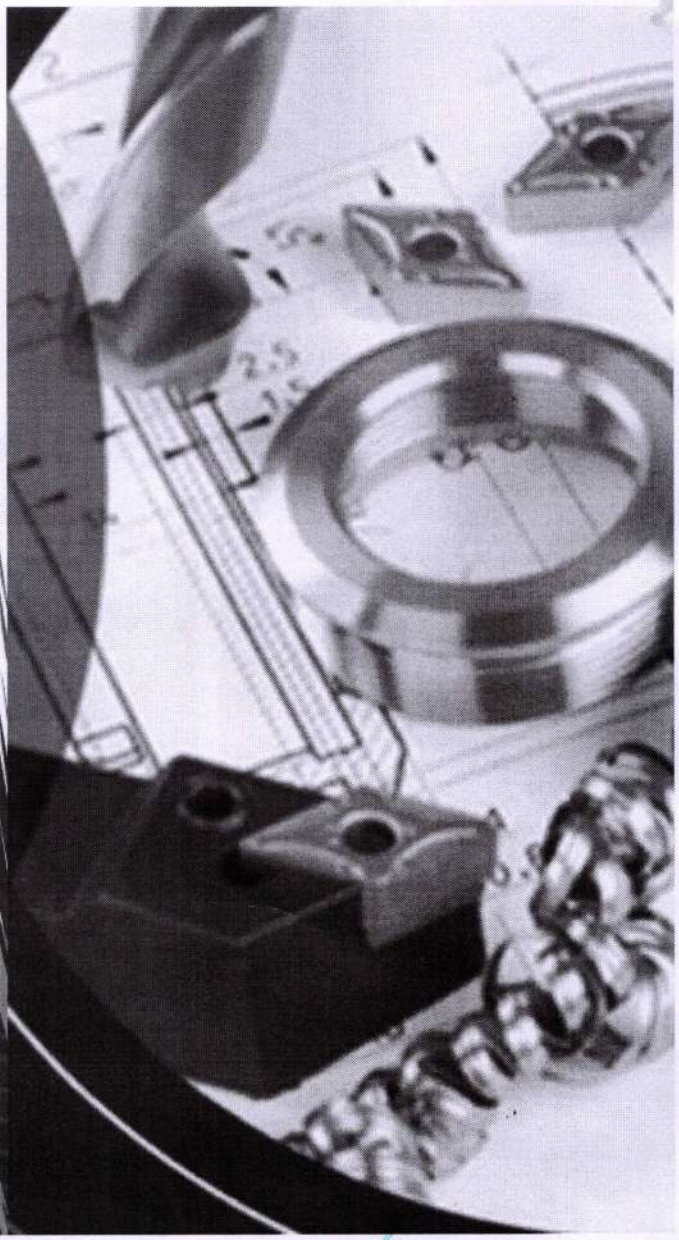


Department of Mechanical Engineering

5 Day workshop
on
Latest Trends in Automobile Engineering

Key Highlights :

- Automobile Design and Materials
- Trends in Connected and Autononomous
- Future Challenges
- Application and Career



Date: 18-11-2019 to 22-11-2019

Exclusively for pre final year students

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5 Day Workshop on LATEST TRENDS IN AUTOMOBILE ENGINEERING, November 18-22, 2019

DAY 1		
Date	**Time**	
18-11-2019 (Monday)	9:00 AM-9:15 AM	**Introduction by Coordinator** Mr. Manuraj T V, Dept. of ME, SNGCET
	9:15 AM-9:25 AM	**Departmental address by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET
	9:30 AM-12:30 PM	**Expert talk by** Mr. Aswin P Assistant Professor, Dept of ME, SNGCET **Title: Introduction to Modern Automotive Technologies.** (Overview of Automotive Industry, Introduction to current automotive market trends and challenges, Evolution of automotive engineering and its impact on modern vehicles.)
	01:30 PM-5:00 PM	**Expert talk by** Mr. Aswin P Assistant Professor, Dept of ME, SNGCET **Title: Introduction to Modern Automotive Technologies** (Discussion on fuel cell technologies and their potential impact, Vehicle Dynamics and Control Understanding vehicle stability control systems, Introduction to advanced driver-assistance systems (ADAS)).

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DAY 2		
19-11-2019 (Tuesday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Innovations in Automotive Design and Materials** (Lightweight Materials and Structures, Importance of lightweight materials in vehicle design, Case studies on the use of composites and advanced alloys.)
	01:30 PM-5:00 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Innovations in Automotive Design and Materials (**Overview of design optimization for aerodynamic performance, Advanced Manufacturing Techniques, 3D printing and additive manufacturing in automotive prototyping, Robotics and automation in car assembly.)
DAY 3		
20-11-2019 (Wednesday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET **Title: Emerging Trends in Connected and Autonomous Vehicles (**Internet of Things (IoT) in Automotive, Connected vehicle technologies and IoT applications, Cybersecurity challenges in connected vehicles.)
	01:30 PM-5:00 PM	**Expert talk by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET **Title: Emerging Trends in Connected and Autonomous Vehicles (**Autonomous Driving Technologies, Levels of autonomy and current state of autonomous vehicle development, Sensors and perception systems in self-driving cars.)

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DAY 4		
21-11-2019 (Thursday)	09:00 AM-12:00 PM,	**Expert talk by** Mr. Manuraj T V Assistant Professor, Dept of ME, SNGCET **Title: Sustainable Mobility and Future Challenges** (Sustainable Automotive Solutions, Role of electric vehicles and sustainable mobility, Circular economy approaches in automotive manufacturing.)
	01:00 PM-5:00 PM	**Expert talk by** Mr. Manuraj T V Assistant Professor, Dept of ME, SNGCET **Title: Sustainable Mobility and Future Challenges** (Urban Mobility and Smart Cities, Urban transportation challenges and solutions, Role of shared mobility and ride-sharing platforms.)
DAY 5		
22-11-2019 (Friday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Industry Applications and Career Perspectives** (Advanced Powertrain Technologies, Overview of electric vehicles (EVs) and hybrid vehicles)
	01:30 PM-5:00 PM	**Expert talk by** Mr. Lipin K Assistant Professor, Dept of ME, SNGCET **Title: Industry Applications and Career Perspectives** (Aerodynamics and Vehicle Design, Basics of aerodynamics and its role in vehicle efficiency.)

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SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON LATEST TRENDS IN AUTOMOBILE ENGINEERING

SYLLABUS

Day 1: Introduction to Modern Automotive Technologies

Session 1:

- Overview of Automotive Industry
- Introduction to current automotive market trends and challenges.
- Evolution of automotive engineering and its impact on modern vehicles.

Session 2:

- Discussion on fuel cell technologies and their potential impact.
- Vehicle Dynamics and Control
- Understanding vehicle stability control systems.
- Introduction to advanced driver-assistance systems (ADAS).

Day 2: Innovations in Automotive Design and Materials

Session 3:

- Lightweight Materials and Structures
- Importance of lightweight materials in vehicle design.
- Case studies on the use of composites and advanced alloys.

Session 4:

- Overview of design optimization for aerodynamic performance.
- Advanced Manufacturing Techniques
- 3D printing and additive manufacturing in automotive prototyping.
- Robotics and automation in car assembly.

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Day 3: Emerging Trends in Connected and Autonomous Vehicles

Session 5:

- Internet of Things (IoT) in Automotive
- Connected vehicle technologies and IoT applications.
- Cybersecurity challenges in connected vehicles.

Session 6:

- Autonomous Driving Technologies
- Levels of autonomy and current state of autonomous vehicle development.
- Sensors and perception systems in self-driving cars.

Day 4: Sustainable Mobility and Future Challenges

Session 7:

- Sustainable Automotive Solutions
- Role of electric vehicles and sustainable mobility.
- Circular economy approaches in automotive manufacturing.

Session 8:

- Urban Mobility and Smart Cities
- Urban transportation challenges and solutions.
- Role of shared mobility and ride-sharing platforms.

Day 5: Industry Applications and Career Perspectives

Session 9:

- Advanced Powertrain Technologies
- Overview of electric vehicles (EVs) and hybrid vehicles.

Session 10:

- Aerodynamics and Vehicle Design
- Basics of aerodynamics and its role in vehicle efficiency.

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON LATEST TRENDS IN AUTOMOBILE ENGINEERING

NAME LIST

S.NO	NAME	SEMESTER
1	ADWAITH J	S8
2	ANWAR HUSSAIN	S8
3	ABHISHEK M	S8
4	ADARSH P P	S8
5	AKSHAY KANDOTH	S8
6	AMARNATH M	S8
7	ASHAKH S	S8
8	GOKUL RETHNAKARAN	S8
9	NIHAL HEMANTH	S8
10	PRAJIN PRABHAKARAN T	S8
11	PRASAD K K	S8
12	RAHUL KRISHNAN K P	S8
13	SHAROON M P	S8
14	SIDDHARTH M	S8

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5 DAY WORKSHOP ON LATEST TRENDS IN AUTOMOBILE ENGINEERING

ATTENDENCE LIST

S.NO	NAME	SEMESTER	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
1	ADWAITH J	S8					
2	ANWAR HUSSAIN	S8					
3	ABHISHEK M	S8					
4	ADARSH P P	S8					
5	AKSHAY KANDOTH	S8					
6	AMARNATH M	S8					
7	ASHAKH S	S8					
8	GOKUL RETHNAKARAN	S8					
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DEPARTMENT OF MECHANICAL ENGINNERING

WORKSHOP REPORT ON LATEST TRENDS IN AUTOMOBILE ENGINEERING

The workshop on the latest trends in automobile engineering, held by SNGCET from November 18th to 22nd, 2019, provided a comprehensive exploration of fundamental principles and practices in this dynamic field. The objective was to offer participants insights into various sources of automobile technology, their applications, and the transformative technologies driving this transition. The session commenced promptly at 9am with an introduction by Mr. Manuraj TV, the coordinator. Mr. Chandrajith E, the esteemed Head of the Mechanical Engineering Department at SNGCET, delivered the departmental address.

The workshop began with an overview of automobile engineering, emphasizing its continual evolution driven by technological advancements, changing consumer demands, and environmental concerns. This report highlights the latest trends shaping the automobile industry, including innovations in electric vehicles (EVs), autonomous driving, connectivity, materials, and sustainability.

The trends in automobile engineering are increasingly oriented towards electric, autonomous, connected, and sustainable mobility solutions. Technological advancements, combined with evolving consumer preferences and regulatory frameworks, are reshaping the automotive landscape towards a more efficient, safer, and environmentally friendly transportation future. Industry stakeholders must persist in innovation and collaboration to fully realize the potential of these trends and effectively address the challenges of tomorrow's mobility ecosystem.

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ENLIGHTENMENT THROUGH EDUCATION

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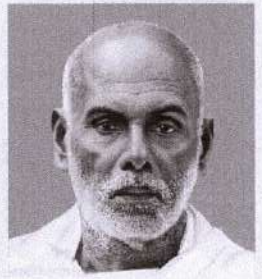

CERTIFICATE OF PARTICIPATION

This is to certify that **Adarsh P P** of **Sree Narayana Guru College of Engineering and Technology** has attended the workshop on **Latest Trends in Automobile Engineering** organized by the **Department of Mechanical Engineering, Sree Narayana Guru College of Engineering and Technology** from 18/11/2019 to 22/11/2019.

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Mr. Manuraj T V
Co-ordinator

Dr. LEENA A. V.
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Mr. Chandrajith E
Head of the Department

Dr. V K Janardhanan
Principal

Gokeel Rethnakaran

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5 DAY WORKSHOP ON 5 DAY WORKSHOP ON LATEST TRENDS IN AUTOMOBILE ENGINEERING

FEEDBACK FORM

Submitted by the Department of Mechanical Engineering

	Excellent	Good	Fair	Poor
1. Overall how would you rate the training class?	☑	☐	☐	☐
2. How would you rate the trainer's communication and presentation skills	☐	☑	☐	☐
3. Were the interactive elements engaging and beneficial	☐	☑	☐	☐
4. Did you receive enough opportunity for questions and clarification during the session	☑	☐	☐	☐
5. Did this class meet your expectation	☑	☐	☐	☐
6. Were the hands-on activities beneficial in understanding concepts	☑	☐	☐	☐
7. Did the workshop offer practical strategies or tools that you can readily apply	☐	☑	☐	☐
8. Were the technical aspects during the workshop satisfactory	☐	☑	☐	☐
9. Rate the level of interaction between the facilitator and participants	☐	☐	☑	☐
10. Did the workshop covers emerging trend or advancements in the field	☑	☐	☐	☐

Leena

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Prasad K.K.

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Adwaith. J

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Abhishek. M

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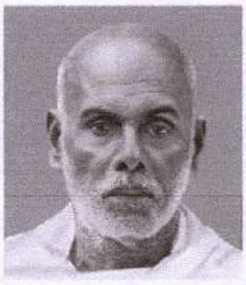
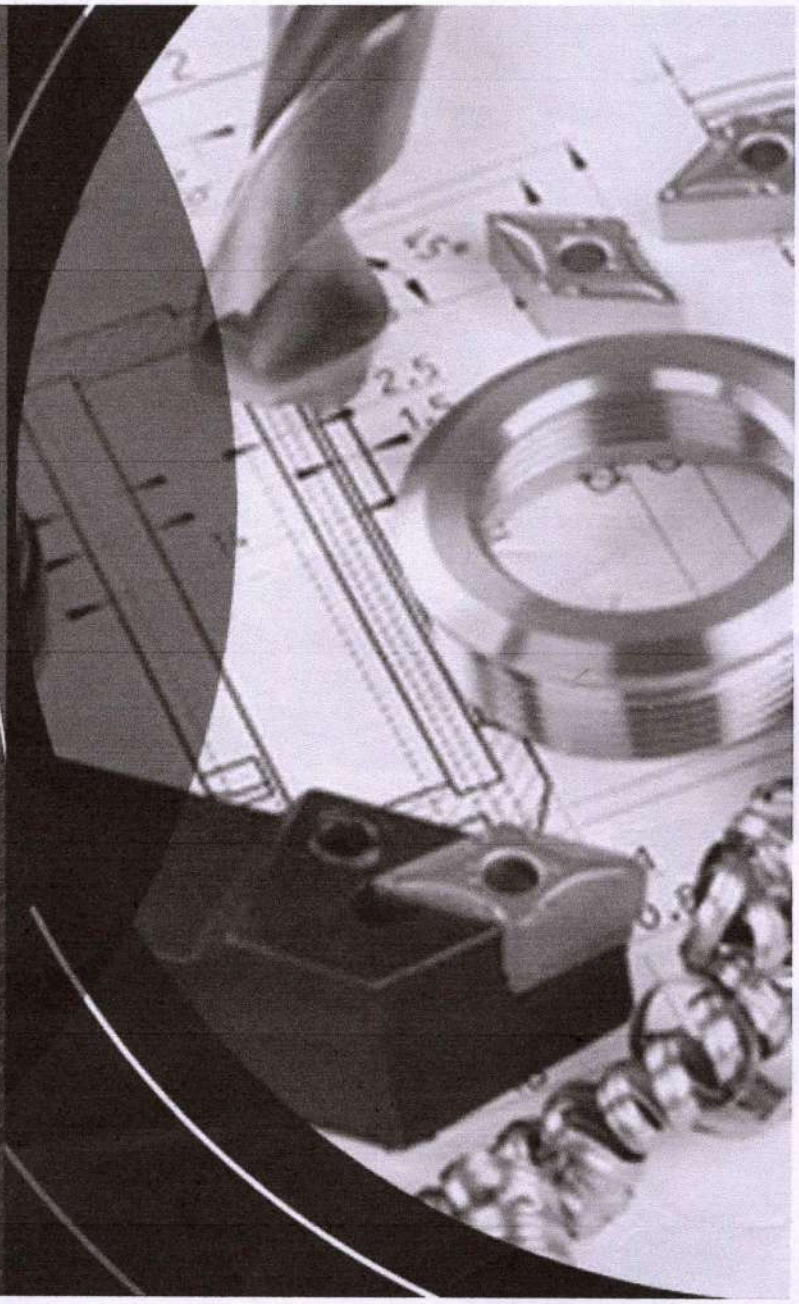


Department of Mechanical Engineering

5 Day workshop

on

Master CAM



Key Highlights :

- 3 D modelling
- Machining Simulation
- Post Processing Operations for 3D printed object
- Toolpath Simulation

Date: 18-02-2019
to
22-02-2019

Venue : CAD/CAM Lab

Exclusively for pre final year students

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5 Day Workshop on MASTERCAM: CNC PROGRAMMING, February 18-22, 2019

DAY 1		
Date	**Time**	
18-02-2019 (Monday)	9:00 AM-9:15 AM	**Introduction by Coordinator** Mr. Manuraj T V, Dept. of ME, SNGCET
	9:15 AM-9:25 AM	**Departmental address by** Mr. Chandrajith E HoD, Dept. of ME, SNGCET
	9:30 AM-12:30 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: 2D geometric commands and the applications.**
	01:30 PM-5:00 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: 2D geometric commands and the applications.**

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DAY 2		
19-02-2019 (Tuesday)	9:00 AM-12:30 PM	**Expert talk by** Dr. Solamon Joseph, Lecturer ME, GPC Periye, Kasargod. **Title: Translation commands for 2D geometry editing.**
	01:30 PM-5:00 PM	**Expert talk by** Dr. Solamon Joseph, Lecturer ME, GPC Periye, Kasargod. **Title: Featuring 2D geometry for 2D tool path, Contouring tool path generation.**
DAY 3		
20-02-2019 (Wednesday)	9:00 AM-12:30 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: Simulation of generated tool path, Generation of NC part program with the suitable post processor.**
	01:30 PM-5:00 PM	**Expert talk by** Dr. Abdul Nazar K P, Associate Professor Dept of Mechanical Engineering, GEC Kannur **Title: 3D modelling and solid editing, Translation of 3D models.**

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DAY 4		
21-02-2019 (Thursday)	09:00 AM-12:00 PM,	**Expert talk by** Mr. Jacob Thomas, Worshop Superintendent, GPC Periye, Kasargod. **Title: Assigning operation parameters for 3D models to be machined.**
	01:00 PM-5:00 PM	**Expert talk by** Mr. Jacob Thomas, Worshop Superintendent, GPC Periye, Kasargod. **Title: 3D machining Simulation.**
DAY 5		
22-02-2019 (Friday)	9:00 AM-12:30 PM	**Expert talk by** Mr. Jacob Thomas, Worshop Superintendent, GPC Periye, Kasargod. **Title: post-processing operations for 3D printed objects.**
	01:30 PM-5:00 PM	**Expert talk by** Mr. Jacob Thomas Worshop Superintendent, GPC Periye, Kasargod. **Title: Assigning operation parameters for 3D models to be machined, 3D machining Simulation.**

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON MASTER CAM

MasterCam Training Syllabus

Day 1

I. MasterCam Configuration/Settings:

- Operating PC, Hardware Accelerations Settings
  - Typically Second Mark from Left on Slider Bar
    - *To Access Hardware Settings:* Go to Desktop > Right Click > Select Properties > Select Settings > Select Advanced > Select TroubleShoot > Adjust Hardware Acceleration Slider bar.

- HELP Option
  - Use feature for learning assistance.
    - Also, use quick learning mode (Hover Mouse cursor over icons on screen to see popup that tells function of particular icon or button)
  - Explain Update Feature which checks for software updates
  - Explain Zip2 go Feature which is used for technical support reasons

- *MasterCam Settings/Configuration* (SETTINGS > CONFIGURATION or ALT + F8)
  - Most commonly altered settings per user
    - Setup Colors
    - Setup Default Machines
    - Start/Exit (Setting to personal Settings)
  - How to Save/Exit Custom Config file.
  - How to Load exist custom file and set to default

II. Screen Layout:

- *Toolbar display* (Type MRU in HELP menu for greater details)
  - *Select:* SETTINGS > Toolbar States
  - Show how Toolbars can be moved about screen to desired location

- *Status Bar* (Located Bottom of Screen)
  - 3D/2D
  - GVIEW (Graphics View)
    - Explain Various Views
      - ***Only Router Pro Students:*** Explain "View By Entity"
        - Used Two lines to create New GView for Tool Control or

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- Used One line to create New GView for Tool Control or Designing purposes
    - Be sure to select "Normal" line at base to project arrow away from part

- PLANES
    - Use for construction of geom. ***DO NOT USE*** for creating new tool Control Lines or views
- Z Depth
- Colors
    - Changing Colors
- Levels
    - Changing Levels
- Attributes
    - Changing Attributes
    - Explain how Attribute dialogue can be used to change Color, Line type, Layer etc….

➢ *Right Click Menu*

- Zoom./Unzoom
    - *Explain common optional features:* F1 (Zoom Window), F2 (Zoom previous)

➢ *Operations Manager*

- Briefly Describe that it is to be used for managing toolpath information.

III. Intro. to Creating CAD Geometry (Sketch geom. on screen on demand)

➢ Using CREATE Option (Explain that Yellow input fields allow input with math functions)

- Lines (All)
- Circles/Arcs (All)
    - Tangent Entities
- Points (All)
- Rectangles
- Rectangular shapes
- Polygons
- Ellipses
- Bounding Box (2D)
- Letters
- Splines
    - Manual
    - Automatic
    - Curves ***(Only Router Pro Students)***
        - > Used to apply wireframe geom. to existing surfaces
    - Blended ***(Only Router Pro Students)***
        - > Typically used to attach arcs in 3D space
            - Use Magnitude to Adjust

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- Fillets
- Chamfers
- Primitives ***(Only Router Pro Students)***

- Using ANALYZE option
  - Explain how this feature can also be used as Editing Feature

- Using EDIT > Trim/Break option
  - Trimming Entities
  - Breaking Entities
  - Extending Entities

- Using XFORM option
  - Translate
  - Rotate
  - Mirror
  - Scale
    - Uniform/XYZ
  - Offset Contour
  - Offset
  - Transform Rectangular Array
  - Drag
  - Stretch
  - Nesting: Rectangular/Tru-Shape
    - Explain Groups/Resulting Colors
    - Explain how to Clear Colors (Right Click > Clear Colors)

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Day 2

IV. Creating 2D MasterCam - Toolpath file

- *Distribute and Load post files*
  - Post files
    - .PST (C:\McamX2\router\posts)
    - .TXT (C:\McamX2\router\posts)
  - Machine Files
    - .Control (C:\McamX2\cnc_machines)
    - .RMD (C:\McamX2\cnc_machines)

- Setup Tools in Tool Manager
  - Create Tool File per customer
    - *Select:* TOOLPATHS > Tool Manager

- Machine Type
  - *Select:* MACHINE TYPE option
    - Explain this can be setup through Configuration Defaults so that when file is opened, machine group will already exist in Operations manager.
  - Once Machine Type is Loaded - Explain PROPERTIES of Machine Group
    - *Go to Operations Manager Select*: Machine Group > *Select:* PROPERTIES
      - Explain Tool Setup
        - "Assign Tool Numbers Squentially"
          - Be sure this is **NOT Checked**
      - Explain Stock Setup
        - Displays stock based on user input
        - Allows visual for Verify Feature

- Appling Tool Paths to 2D Parts
  - Open and explain "Basic-2D_1.MCX" drwg file

  - Use "MACHINE_CONFIG.MCX" to explain Merge File option and to show customer how they can use a machine config. Drawing to help them understand part position relative to machine work envelope and use this file as a template. If there are some common toolpaths which will be used, those toolpaths can be added to the machine config file and this file used as a Template type file (will be able to load file and simply reselect Toolpath geom. and Regenerate).
    - Explain Back Plotting feature
      - Note that backplot movements can be saved as actual geom.
    - Show Verify feature

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- Explain Ability to Edit Toolpath Parameters & Selected Operation Geom.
- Show ability to Turn visibility of Tool Paths ON/OFF
- Explain Regeneration of "Dirty" Operations after they've been edited
- Explain Ability to Post CNC code
    - Drilling
        - Automatic
        - Entities
        - Window Points
        - Mask on Arc
        - Sorting Methods
    - Pocketing (Standard)
    - Contour (2D)
        - Ramp Contour Tool path
    - Circle Tool paths/Circle Mill

- Hand out Hard copy of "Basic-2D_1.MCX" drwg file and let student/s work through project, helping them as needed.
    - Use Additional "2D" sample drwgs. if needed for time filler and additional explanation of toolpath options.

➢ Working with Toolpath geom. in Operations Manager

- Copying Toolpaths
    - Allows user to copy existing toolpath and alter settings to fit a similar geom.
        - *Select:* Toolpath to Copy > Right Click > *Select:* Copy > Reposition Red Arrow to desired location > *Select:* Red Arrow > Right Click > *Select:* Paste

- Importing
    - Allows user to Import Toolpath Parameters from another MCX file
        - *Select:* Toolpath to Copy > Right Click > *Select:* Copy > Reposition Red Arrow to desired location > *Select:* Red Arrow > Right Click > *Select:* Paste

- Creating a New Toolpath Group
    - Allows user to manage Toolpaths in greater detail (ie: create a group for fixture machining, group for part trim, etc…)
        - *Select:* Machine Group in which you want to create a new Toolpath Group > Right Click > *Select:* Groups > *Select:* New Toolpath Group

- Transforming toolpath
    - Allows user to Translate and Copy existing toolpath throughout material sheet

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Day 3

V. Creating 3D MasterCam - Toolpath file

- Intro to Three-dimensional Drawing
  - Explain 1" Selection grid for ease of following 3D design
    - *Select:* SCREEN > *Select:* Screen Grid Settings
    - Set Grid to 1" size with .05 grid
    - Return to Graphics screen, change PLANES to show reaction with visible Grid
  - Use CREATE option to draw sample shapes in different PLANES
  - Draw 3D wireframe part
    - Open/Explain "3D_Wireframe-1.MCX"
      - > Create part by first drawing 2D profile, then sweeping geom. into 3D part using the XFORM > Translate > JOIN feature
    - ***Note:*** For Router students planning to use the 4th Axis/Aggregate
      - > Use various PLANES (ie: Front, Side, etc…) to create tool planes for creating Horizontal boring, Mortising, tool paths
  - Hand out Hard copy of "3D_Wireframe-1.MCX" drwg file and let student/s work through project, helping them as needed.
  - ***Note:*** At this time For Router Pro Students (Skip to next topic: Surfaces for router Students):
    - Continue Applying toolpaths to "3D_Wireframe-1.MCX"
      - > Create and Save a User-defined Gview/Construction Plane/Tool plane (Normal GVIEW)
        - Display this option on angled face of BLOCK
      - > Toolpath part
        - Pocketing from Top
        - Pocketing On Angle (Using newly defined tool plane)
        - Contour Slot (Using newly defined tool plane)
        - Drill Hor. Hole (Using Right Side tool plane)

- Intro to Surfaces
  - Open/Explain "3D_Surfaces-Router.mcx"
    - Create & demonstrate various primary surface methods
    - Ruled/Lofted Surfaces
      - > Differences between Ruled/Lofted
    - Revolved Surfaces
      - > Draw profile off to side and revolve geom. around a line designated as center axis to show this option
    - Swept Surfaces
    - Net Surface

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        - > Draw closed boundary shape to show this option
    - Draft Surface
        - > Extend one of the wire frame entities of "3D_Surfaces-Router.mcx" to show this option
    - Extruded Surface
        - > Draw profile off to side and extrude to show this option
    - Flat Boundary Surface
        - > Draw closed boundary shape to show this option
- Secondary Surface Operations
    - Offset surfaces
    - Fence surfaces
    - Fillet Surfaces
    - Trimming Surfaces
    - Extending Surfaces
- Projecting curves onto surfaces
    - Draw entity or shape above surface of part and project to surface of existing part
- Importance of Surface Normals & how they affect surface fillets, offset surfaces, and head orientation (5 axis machining)
- Projection normal lines from surfaces
    - Create a point on angled surface
        - > CREATE > Point > Dynamic
    - Use XFORM > XFORM Project to create line
- Vertical (TOP PLANE) Toolpaths
    - Surface Rough
        - > Discuss Drive surfaces
        - > Check surfaces
        - > Tool Containment boundaries
        - > Depth limits
    - Surface Finish Tool paths
        - > Finish parallel
        - > Finish scallop
        - > Finish leftover
        - > Finish Pencil

- Hand out Hard copy of "3D_Surfaces-Router.mcx" drwg file and let student/s work through project, helping them as needed.

- ***Note:*** At this time For Router Pro Students Move onto "3D_Surfaces-Router_Pro.mcx" file

➢ Continue 3D Design/Entry to 5 axis machining
- Open Explain "3D_Surfaces-Router_Pro.mcx" file
- Create wireframe

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Day 4

- Finish any remaining surface machining 3D designing functions cut short on Day 3.

- Multi Axis Surface Toolpaths
  - Use "3D_Surfaces-Router.mcx" &/or "3D_Surfaces-Router_Pro.mcx"drwg file
    - Illustrate Multiaxis Surfacing Toolpaths
      - 5 Axis Multi Surface
        - Note that Multi Surface performs most everything Flowline does
        - Show How Flowline can be changed in ToolPath Parameters of Multi Surface
      - 5 Axis Flowline

- Multi-Axis Trim Paths
  - Use "3D_Surfaces-Router_Pro.mcx" file to Illustrate
    - 5 Axis Curve
      - Variety of tool axis control methods, e.g., lines surface, etc.
      - Variety of entry/exit strategies
      - Step increment vs. chord height wall following methods
    - 5 Axis Swarf
      - Variety of tool axis control methods, e.g., lines surface, etc.
      - Variety of entry/exit strategies
      - Step increment vs. chord height wall following methods
    - 5 Axis Drill
      - Create points on surface of part
        - CREATE > Point > Dynamic
    - Discuss Misc. Values and there affects on Posted Code
      - Hand out and explain "PostDocXMR1&2-5AX-R1.pdf" file
        - *MISC values Located in:* Toolpath Parameters

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Day 5

Work with the students on any real world projects brought to class.

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DEPARTMENT OF MECHANICAL ENGINEERING

5 DAY WORKSHOP ON MASTERCAM:CNC PROGRAMMING

STUDENTS LIST

SL.NO	NAME
1	ADWAITH J
2	ANWARHUSSAIN
3	ABHISHEK M
4	ADARSH PP
5	AKHILMK
6	AKHILP
7	AKSHAY KANDOTH
8	AMARNATHM
9	ASHAKH S
10	GOKUL RETHNAKARAN
11	JISHNUDAS E
12	JISHNU KP
13	NIHAL HEMANTH
14	PRAJIN PRABHAKARANT
15	PRASAD KK
16	RAHULKRISHNAN KP
17	SHAROON MP
18	SIDDHARTH M
19	SREEDARSH PK
20	SREEHARI P

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5 DAY WORKSHOP ON MASTERCAM: CNC PROGRAMMING

DAY 1 ATTENDENCE LIST

S.NO	NAME	SEMESTER	SIGN
1	ADWAITH J	S8	
2	ANWAR HUSSAIN	S8	
3	ABHISHEK M	S8	
4	ADARSH P P	S8	
5	AKHIL M K	S8	
6	AKHIL P	S8	
7	AKSHAY KANDOTH	S8	
8	AMARNATH M	S8	
9	ASHAKH S	S8	
10	GOKUL RETHNAKARAN	S8	
11	JISHNU DAS E	S8	
12	JISHNU K P	S8	
13	NIHAL HEMANTH	S8	
14	PRAJIN PRABHAKARAN T	S8	
15	PRASAD K K	S8	
16	RAHUL KRISHNAN K P	S8	
17	SHAROON M P	S8	
18	SIDDHARTH M	S8	
19	SREEDARSH P K	S8	
20	SREEHARI P	S8	

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DAY 2 ATTENDENCE LIST

S.NO	NAME	SEMESTER	SIGN
1	ADWAITH J	S8	
2	ANWAR HUSSAIN	S8	
3	ABHISHEK M	S8	
4	ADARSH P P	S8	
5	AKHIL M K	S8	
6	AKHIL P	S8	
7	AKSHAY KANDOTH	S8	
8	AMARNATH M	S8	
9	ASHAKH S	S8	
10	GOKUL RETHNAKARAN	S8	
11	JISHNU DAS E	S8	
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13	NIHAL HEMANTH	S8	
14	PRAJIN PRABHAKARAN T	S8	
15	PRASAD K K	S8	
16	RAHUL KRISHNAN K P	S8	
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20	SREEHARI P	S8	

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DAY 3 ATTENDENCE LIST

S.NO	NAME	SEMESTER	SIGN
1	ADWAITH J	S8	
2	ANWAR HUSSAIN	S8	
3	ABHISHEK M	S8	
4	ADARSH P P	S8	
5	AKHIL M K	S8	
6	AKHIL P	S8	
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DAY 4 ATTENDENCE LIST

S.NO	NAME	SEMESTER	SIGN
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2	ANWAR HUSSAIN	S8	
3	ABHISHEK M	S8	
4	ADARSH P P	S8	
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5 DAY WORKSHOP ON MASTERCAM: CNC PROGRAMMING

DAY 5 ATTENDENCE LIST

S.NO	NAME	SEMESTER	SIGN
1	ADWAITH J	S8	
2	ANWAR HUSSAIN	S8	
3	ABHISHEK M	S8	
4	ADARSH P P	S8	
5	AKHIL M K	S8	
6	AKHIL P	S8	
7	AKSHAY KANDOTH	S8	
8	AMARNATH M	S8	
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WORKSHOP REPORT ON MASTERCAM: CNC PROGRAMMING

The "Workshop on MASTERCAM: CNC Programming" was conducted by the Department of Mechanical Engineering (ME) from February 18th to February 22nd, 2019, starting at 10 AM in the seminar hall of the Mechanical department. The workshop was conducted for pre-final year mechanical students. The primary objective of the workshop was to introduce students to the fundamentals of CNC programming. Apart from students, the workshop also saw participation from the staff of SNGCET. The event commenced with a welcoming speech by Mr. Manuraj T V, Assistant Professor of ME and the event coordinator, who expressed gratitude to all attendees and faculty members for their enthusiastic support.

The workshop commenced with a warm welcome from the esteemed Head of the Department, Mr. Chandrajith E. Expert insights were shared by Dr. Abdul Nazar K P, Dr. Solamon Joseph, and Mr. Jacob Thomas. Attendees were provided with hands-on experience in tasks such as creating toolpaths, generating G-code, and simulating machining operations within the Mastercam software environment. Interactive sessions and live demonstrations facilitated the acquisition of skills in utilizing Mastercam's advanced features for intricate part design and machining optimization. Moreover, the workshop covered diverse machining strategies and techniques aimed at bolstering productivity and attaining precision in CNC programming. Participants also familiarized themselves with best practices concerning tool selection, workpiece setup, and rectifying common programming errors.

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The recent workshop on Mastercam for CNC Programming provided participants with valuable insights and practical skills in computer numerical control (CNC) programming. Spanning over several sessions, the workshop delved into the fundamentals of Mastercam software, emphasizing its applications in CNC machining processes.

Overall, the workshop proved instrumental in equipping attendees with practical skills and knowledge essential for proficient CNC programming using Mastercam software. Attendees departed the session with renewed inspiration and a steadfast determination to further refine their concepts, with the aim of making a positive impact on the world through their innovative endeavors. The session, featuring informative presentations and insightful discussions, undoubtedly enriched the academic atmosphere at SNGCET. Through a blend of theoretical concepts and practical exercises, participants left the workshop with a deeper understanding of CNC programming principles and enhanced capabilities in utilizing Mastercam for optimizing machining processes.

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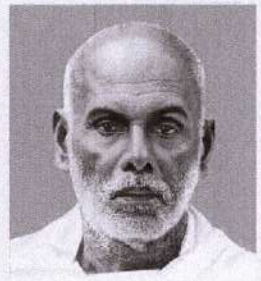
ENLIGHTENMENT THROUGH EDUCATION

Sree Narayana Guru College of Engineering & Technology

Est. 2003

Sree Narayana Guru College of Engineering & Technology

CHALAKKODE P.O., KOROM, PAYYANUR, KANNUR-670 307



CERTIFICATE OF PARTICIPATION

This is to certify that **AKHIL M K** of **Sree Narayana Guru College of Engineering and Technology** has attended the workshop on **MASTERCAM: CNC PROGRAMMING** organized by the **Department of Mechanical Engineering, Sree Narayana Guru College of Engineering and Technology** from 18/02/2019 to 22/02/2019.

SREE NARAYANA GURU COLLEGE OF ENGINEERING & TECHNOLOGY PAYYANUR

Mr. Manuraj T V
Co-ordinator

Dr. LEENA A. V.
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Mr. Chandrajith E
Head of the Department

Dr. V K Janardhanan
Principal

Adwaita J
S8

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5 DAY WORKSHOP ON MASTERCAM: CNC PROGRAMMING

FEEDBACK FORM

Submitted by the Department of Mechanical Engineering

	Excellent	Good	Fair	Poor
1. Overall how would you rate the training class?	☑	☐	☐	☐
2. How would you rate the trainer's communication and presentation skills	☐	☑	☐	☐
3. Were the interactive elements engaging and beneficial	☐	☑	☐	☐
4. Did you receive enough opportunity for questions and clarification during the session	☑	☐	☐	☐
5. Did this class meet your expectation	☐	☑	☐	☐
6. Were the hands-on activities beneficial in understanding concepts	☐	☐	☑	☐
7. Did the workshop offer practical strategies or tools that you can readily apply	☐	☑	☐	☐
8. Were the technical aspects during the workshop satisfactory	☐	☑	☐	☐
9. Rate the level of interaction between the facilitator and participants	☐	☑	☐	☐
10. Did the workshop covers emerging trend or advancements in the field	☑	☐	☐	☐

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