



AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING

Approved by All India Council for Technical Education - New Delhi, Affiliated to Anna University, Chennai
NAAC Accredited Institution

"Nizara Educational Campus", Muthapudupet, Avadi - IAF, Chennai - 600 055.

ANNA UNIVERSITY COUNSELLING CODE : 1101



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Dated on: 5/2/2022

CIRCULAR

FACULTY MEMBERS AND STUDENTS

We have planned to conduct Value Added course in our department on the topic "INTERNET OF THINGS" from 8/2/2022 to 12/2/2022 therefore I request all the Faculty members and students to attend the course and make utilization of the course for your future.

Resource Person:
Mr. RAVI RANJAN
ASSISTANT PROFESSOR
COIMBATORE

*Permitted to organize the
above programme*

*Date
5/2/22*



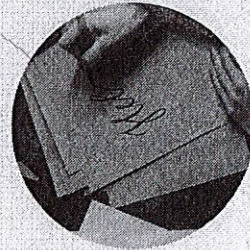
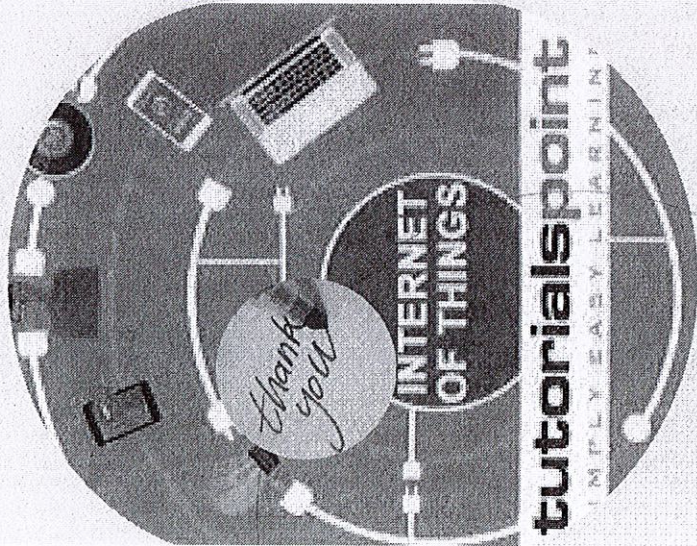
A.S. Salma Banu

Prof. Dr. A.S.SALMA BANU
HoD/ECE



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Value Added course

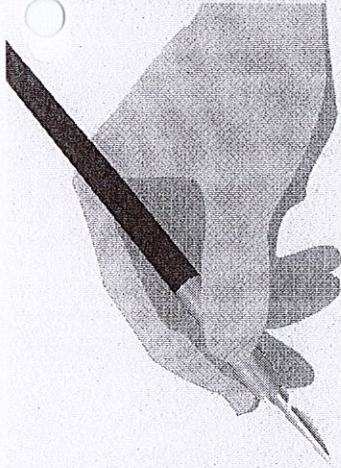


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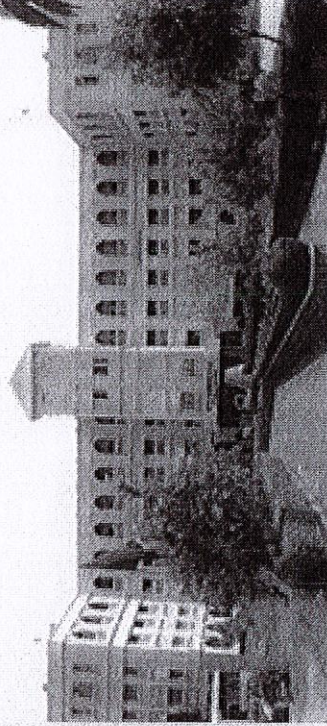
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Ms
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AALIM MUHAMMED SALEGH
COLLEGE OF ENGINEERING



Department of Electronics and
Communication Engineering

8/2/2022 -12/2/2022

Alhaj. S. Segu Jamaludeen
Secretary & Correspondent

Prof. Dr. S. SATHISH
PRINCIPAL

Prof. Dr. A.S.Salma Banu
Head/ ECE

Resource Person

Mr.Ravi Ranjan
Assistant Professor
coimbatore



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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING VALUE-ADDED COURSE- SUMMARY REPORT

COURSE NAME: INTERNET OF THINGS

Date: 08/2/2022 to 12/2/2022

Timing: Morning Session: 9:30 am to 12:30 pm

Afternoon Session: 1:30 pm to 4:30 pm

No. Of Days: 5

No. Of Modules: 5

Course Hours: 30

Mode of Conduction: Offline

Speaker: Mr. RAVI RANJAN

Attended Students: 61

Objective of the Course:

This course aims to equip participants with a comprehensive understanding of edge computing, IoT security, low-power embedded systems, and data analytics in the Internet of Things (IoT) ecosystem. By focusing on emerging technologies, security protocols, and data handling strategies, participants will gain the skills needed to design efficient, secure, and intelligent IoT solutions that can operate in diverse network environments.

Summary of the Course:


This course covers key areas essential for developing advanced IoT systems, including edge computing architectures, IoT security, and low-power embedded systems. Participants will learn about edge and fog computing to process data close to IoT devices, reducing latency and optimizing resource use. Topics also cover IoT security protocols, vulnerability assessment, and privacy practices to protect IoT communications.

Course Outcomes:

Upon completing this course, participants will be able to:

1. **Edge Computing and AI for IoT:** Design and implement edge computing architectures, including deploying AI models on edge devices to enable real-time data processing and decision-making closer to IoT devices.
2. **IoT Security and Privacy:** Apply security protocols like TLS, DTLS, and PKI to protect IoT communications and perform vulnerability assessments to mitigate risks, ensuring data privacy across IoT networks.
3. **Low-Power IoT Devices and Embedded Systems:** Optimize power consumption in IoT devices, use energy harvesting methods, and develop applications on RTOS (e.g., FreeRTOS) to create energy-efficient, low-power solutions for embedded IoT.
4. **Data Analytics and Machine Learning on IoT Data:** Use machine learning techniques for time-series analysis and anomaly detection on IoT data streams, and deploy lightweight ML models on resource-constrained IoT devices using frameworks like TensorFlow Lite.




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4VADI - IAF, MUTHAPUDUPET
CHENNAI 600 055

Place: Chennai
Date:31/01/2022

From:

Head of the Department
Department of ECE
Aalim Muhammed Salegh College of Engineering
Avadi IAF, Muthapudupet
Chennai - 600055

To:

The Principal
Aalim Muhammed Salegh College of Engineering
Avadi IAF, Muthapudupet
Chennai - 600055

Respected Sir,

Sub: Requisition for the approval to conduct Value Added course in our ECE department – Reg.

We wish to conduct Value Added course in our ECE department on the topic "IOT" an Alumni Guest Lecture Series From 08/02/2022 to 12/02/2022.

Resource Person:

Mr. RAVI RANJAN,
ASSISTANT PROFESSOR,
COIMBATORE.

The objective of conducting this Value Added course will give the industry focus in developing skills required by using latest technology advancement in "IOT". This effort will benefit our Student's community and bring core strength in engineering field.

Thank you.



*Permitted to organize
the above
programme*

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COLLEGE OF ENGINEERING

Yours truly,
[Signature]
31/01/22
Professor Dr. A. S. SALMABANU
Head of the Department/ECE
AMSCE, Chennai -55

AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING
Department of Electronics and Communication Engineering
CERTIFICATE COURSE-IOT
Academic Year: (2021-2022)

Day/Date	CONTENT	Description	HOURS
Day 1	Edge Computing and AI for IoT	<ul style="list-style-type: none"> Edge Computing Architectures: Explore edge and fog computing to optimize processing close to IoT devices, reducing latency and data transmission costs. Edge AI: Deploy machine learning models directly on edge devices, allowing real-time data analysis and decision-making without relying on cloud resources. 	6
Day 2	IoT Security and Privacy	<ul style="list-style-type: none"> IoT Security Protocols: In-depth coverage of TLS, DTLS, PKI, and encryption techniques for secure IoT communication. Vulnerability Assessment and Privacy: Methods for identifying and mitigating security vulnerabilities, along with data protection practices to ensure user privacy in IoT networks. 	6
Day 3	Low-Power IoT Devices and Embedded Systems	<ul style="list-style-type: none"> Power Optimization: Techniques for extending battery life and utilizing energy harvesting in IoT devices. RTOS and Microcontroller Programming: Programming on RTOS like FreeRTOS to build efficient, low-power IoT solutions. 	6
Day 4	Data Analytics and Machine Learning on IoT Data	<ul style="list-style-type: none"> Time-Series and Anomaly Detection: Use machine learning and statistical methods to analyze IoT data streams for trend analysis, prediction, and anomaly detection. 	6




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		<ul style="list-style-type: none"> • ML Deployment on IoT Devices: Tools and frameworks like TensorFlow Lite and PyTorch Mobile for deploying ML models on resource-constrained devices. 	
Day 5	IoT Networks and Connectivity	<ul style="list-style-type: none"> • LPWAN and 5G: Study LPWAN technologies (e.g., LoRaWAN, NB-IoT) and the impact of 5G on IoT connectivity, particularly for massive IoT deployments and critical applications. • Mesh Networking and Interoperability: Understand mesh networking (e.g., Zigbee, Thread) and challenges related to interoperability among diverse IoT devices. 	6

TOTAL: 30HRS




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5/15



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Value Added Course Tentative Time Table And Schedule

Value Added Course Name: Internet of Things

Date of Commencement: From 08/2/2022

Timing: Morning Session: 9:30 am to 12:30 pm

Afternoon Session: 1:30 pm to 4:30 pm

Tentative Date of Exam- 12/2/2022

Tentative Course Schedule - 08/2/2022 to 12/2/2022 (As per following)


No. Of Days: 5

Course Hours: 30

Speaker: Mr. RAVI RANJAN

1. Module -1:Edge Computing & AI for IOT– 08-02-2022 – 6 Hours
2. Module -2:IOT Security & Privacy – 09-02-2022 – 6 Hours
3. Module -3:Low-Power IoT Devices & Embedded Systems– 10-02-2022 – 6 Hours
4. Module -4:Data Analytics & Machine Learning on IoT Data– 11-02-2022 – 6 Hours
5. Module -5:IoT Networks & Connectivity– 12-02-2022 – 6 Hours




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DEPARTEMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Students Attendance (08-02-2022 to 12-02-2022)

IOT-Value Added Course Year / Semester: IV

S.NO	REG.NO	NAME OF THE STUDENT	8/02	9/02	10/02	11/02	12/02
1	110118106001	ABDUL HAMEED J	Abdul	Abdul	Abdul	Abdul	Abdul
2	110118106003	AFRIN FATHIMA S A	Afrin	Afrin	Afrin	Afrin	Afrin
3	110118106004	AL THOWHEED AHMED B	Al Thowheed	Al Thowheed	Al Thowheed	Al Thowheed	Al Thowheed
4	110118106005	ARAVIND KUMAR M	Aravin	AB	Aravin	Aravin	Aravin
5	110118106006	ARFATH ALI S	Arfath	Arfath	Arfath	Arfath	AB
6	110118106007	ARSHIYA Z	Arshiya	Arshiya	Arshiya	Arshiya	Arshiya
7	110118106008	FARHEEN ANJUM B	Farheen	Farheen	Farheen	Farheen	Farheen
8	110118106009	FARITHA BANU K	Banu	Banu	AB	Banu	Banu
9	110118106010	HAKKIM ARSATH M	Hakkim	Hakkim	Hakkim	Hakkim	Hakkim
10	110118106011	HALEEMA HUMAIRA P M S	Haleema	Haleema	Haleema	Haleema	Haleema
11	110118106012	JAUHAR FATHIMA B	Jathima	Jathima	Jathima	Jathima	AB
12	110118106013	KREETHIKA V	Kreethika	Kreethika	Kreethika	Kreethika	Kreethika
13	110118106014	MOHAMED ASSAIN M	Assain	Assain	Assain	Assain	Assain
14	110118106015	MOHAMED FARDEEN.S	Fardeen	Fardeen	Fardeen	Fardeen	Fardeen
15	110118106016	MOHAMED FAZIL S	Fazil	AB	Fazil	Fazil	AB
16	110118106017	MOHAMED HAJA PARVEZ S	Haji	Haji	Haji	Haji	Haji
17	110118106019	MOHAMED SAFEEK P	Safak	Safak	Safak	Safak	Safak
18	110118106020	MOHAMMED AAQIB A	Aaqib	Aaqib	Aaqib	Aaqib	Aaqib
19	110118106021	MOHAMMED JUNAID A	Junaid	Junaid	Junaid	AB	Junaid
20	110118106022	MOHAMMED MUKBHIL HUDHA	Mukbil	Mukbil	Mukbil	Mukbil	Mukbil



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21	110118106023	MOHAMMED RASUL A	Rasul	AB	AB	Rasul	Rasul
22	110118106024	MOHAMMED THABRAZ J	Thabraz	Thabraz	Thabraz	Thabraz	Thabraz
23	110118106025	MOHD IRFAN KHAN Z	Irfan	Irfan	Irfan	AB	AB
24	110118106026	SATHIYAPRIYA S	Sathiya	Sathiya	Sathiya	Sathiya	Sathiya
25	110118106027	SHABEER.B	Shabeer	Shabeer	Shabeer	Shabeer	Shabeer
26	110118106028	SHAIK ABDUL KADER S.H	Kader	Kader	Kader	Kader	Kader
27	110118106029	SYED MOHAMMED S	Syed	Syed	Syed	Syed	Syed
28	110118106030	THABEEB MOHAMED BURVEZ M	Thabeeb	Thabeeb	Thabeeb	Thabeeb	Thabeeb
29	110118106301	BHASHEETH R	Bhasheeth	Bhasheeth	Bhasheeth	Bhasheeth	Bhasheeth
30	110118106302	DHAWOODH KHAN H	Dhaoodh	Dhaoodh	Dhaoodh	Dhaoodh	Dhaoodh
31	110118106303	FARHAN MOHAMMED B	Farhan	Farhan	Farhan	Farhan	Farhan
32	110118106305	MURALI KRISHNA	Murali	AB	AB	Murali	Murali
33	110118106306	SUNIL KUMAR C H	Sunil	Sunil	Sunil	Sunil	Sunil



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DEPARTEMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Students Attendance (08-02-2022 to 12-02-2022)

IOT

Year / Semester: II

S.NO	REG.NO	NAME OF THE STUDENT	8/02	9/02	10/02	11/02	12/02
1	110120106001	Aasiq.A	Aasiq	Aasiq	Aasiq	Aasiq	Aasiq
2	110120106002	Ahamed irfan.S	Irfan	Irfan	Irfan	Irfan	AB
3	110120106003	Arshath Mohamed.ST	Arshath	Arshath	Arshath	Arshath	Arshath
4	110120106004	Dhaudh Basha. S	Basha	AB	Basha	Basha	Basha
5	110120106005	Faiz Ahmed. B	Faiz	Faiz	Faiz	Faiz	Faiz
6	110120106006	Hilur Hussain. M	Hussain	Hussain	Hussain	AB	Hussain
7	110120106007	Kavitha. S	Kavitha	Kavitha	Kavitha	Kavitha	Kavitha
8	110120106008	Mariyam Afra. K. M	Mariyam	Mariyam	Mariyam	Mariyam	Mariyam
9	110120106009	Mohammed Ashraf. A	Ashraf	Ashraf	AB	Ashraf	Ashraf
10	110120106010	Mohammed Umar Farooq.N	Umar	Umar	Umar	Umar	Umar
11	110120106011	Riyaz Ahmed.M	Ahmed	Ahmed	Ahmed	Ahmed	Ahmed
12	110120106012	Shanmugapriya B	Shanmuga	Shanmuga	Shanmuga	Shanmuga	AB
13	110120106013	Sk. Samir Ahmed	Samir	Samir	Samir	Samir	Samir
14	110120106014	Suriya K	Suriya	AB	Suriya	Suriya	Suriya
15	110120106015	Syed Faheem.M	Syed	Syed	Syed	Syed	Syed
16	110120106016	Tasleem Banu.K	Tasleem	Tasleem	Tasleem	AB	Tasleem
17	110120106301	Afrin Fathima	Fathima	Fathima	Fathima	Fathima	Fathima
18	110120106302	Bharathi	Bharathi	Bharathi	Bharathi	Bharathi	Bharathi
19	110120106303	Fahad Ahamed	Fahad	Fahad	AB	Fahad	Fahad
20	110120106304	Mahendar S R	Mahendar	Mahendar	Mahendar	Mahendar	AB



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21	110120106305	Mohamed Irfanul Hassan.A	Irfanul	AB	Irfanul	Irfanul	Irfanul
22	110120106306	Mohamed Omar Sulthan	Omar	Omar	Omar	Omar	Omar
23	110120106307	Naveen Kumar	Naveen	Naveen	Naveen	AB	Naveen
24	110120106309	Rizaldeen	Rizaldeen	Rizaldeen	Rizaldeen	AB	Rizaldeen
25	110120106310	Rizwana.N	Rizwana	Rizwana	Rizwana	AB	Rizwana
26	110120106311	Rukhsana.N	Rukhsana	AB	AB	Rukhsana	Rukhsana
27	110120106312	Sulaiman Amza Sait A	Amza	Amza	Amza	AB	Amza
28	110120106313	Venkateswaran.M	Venkateswaran	Venkateswaran	Venkateswaran	Venkateswaran	Venkateswaran

A. A. A.
12/02/20
HEAD/ECE

PRINCIPAL



MA
PRINCIPAL
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COLLEGE OF ENGINEERING

TEAMTWEAKS

CERTIFICATE OF ACHIEVEMENT



THIS CERTIFICATE IS PROUDLY PRESENTED TO

AFRIN FATHIMA S A

has successfully completed 5 days of valued Added Course in "Internet of Things" from 08/02/2022 to 12/02/2022. We appreciate your hard work & Sincerity towards your course and wish you good luck for your future endeavor.

Ravi Ranjan

RAVI RANJAN
Trainer

Kapil Dev

Kapil Dev
Co-Founder & Chief
Executive Office



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COLLEGE OF ENGINEERING

22
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TEAMTWEAKS

CERTIFICATE OF ACHIEVEMENT



THIS CERTIFICATE IS PROUDLY PRESENTED TO

AL THOWHEED AHMED B

has successfully completed 5 days of valued Added Course in "Internet of Things" from 08/02/2022 to 12/02/2022. We appreciate your hard work & Sincerity towards your course and wish you good luck for your future endeavor.

Ravi Ranjan

RAVI RANJAN
Trainer

Kapil Dev

Kapil Dev
Co-Founder & Chief
Executive Office



Principal

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COLLEGE OF ENGINEERING

TEAMTWEAKS

CERTIFICATE OF ACHIEVEMENT



THIS CERTIFICATE IS PROUDLY PRESENTED TO

ARAVIND KUMAR M

has successfully completed 5 days of valued Added Course in "Internet of Things" from 08/02/2022 to 12/02/2022. We appreciate your hard work & Sincerity towards your course and wish you good luck for your future endeavor.

Ravi Ranjan

RAVI RANJAN
Trainer

Kapil Dev

Kapil Dev
Co-Founder & Chief
Executive Office




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