

AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE, Permanently Affiliated to JNT University

Kakinada,

Accredited By NAAC and Recognized under 2(f) & 12 (b) by UGC,
New Delhi)

Tamaram, Makavarapalem, Narsipatnam (RD), Visakhapatnam-531113



Certificate Course

on

IOT IN SMART GRID

From 12TH OCT 2020 TO 16TH OCT 2020

Login with the link: <https://meet.google.com/mng-ftry-gxj>



ORGANIZED BY

DEPT. OF ELECTRICAL & ELECTRONICS ENGINEERING
AVANTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY,
TAMARAM (V), MAKAVARAPALEM (M),
VISAKHAPATNAM-531113

AVANTHI EDUCATIONAL SOCIETY

Avanthi Educational Society under the Leadership of Sri M.Srinivasa Rao garu as chairman was started in the Year 1991. Within a short span of its establishment, the group has made a remarkable stride in the field of education offering various courses at Under Graduate, Post Graduate, Pharmacy & Engineering levels. This milestone is achieved as the institution carved itself to impart quality and career oriented education, countering the challenges of the modern world through planning, dedication, determination, prompt execution and with the innovative ideas of our advisory board. Today, Avanthi Educational Society is proud to have a strength of over 16000 students with 15 institutions under its ambit. It is the path of glory towards the success during the last 19 years. The institution has been adjudged many times as the second best educational institutions in the twin cities and 16th best in all over India through the impartial survey made by the renowned magazine "India Today".

AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY

AIET started in the year 1999 and offers various courses at Engineering and PG level. The college is providing with rooms, computer centre, laboratories and seminar hall with audio-visual equipments. Industry Institute interaction is conducted regularly to emphasize on the latest trends in the present market.



It is very near to Narsipatnam. Frequent bus facilities are available both from Visakhapatnam and Narsipatnam. Very safe and secure hostel facility is available for

Girl students. These are the additional facilities besides excellent academic atmosphere in the college campus.

DEPARTMENT OF ELECTRICAL ANDELECTRONICS ENGINEERING

The Department of Electrical & Electronics Engineering was established in the year 2001 along with the MECHANICAL, ECE and CSE departments. The department has an intake of 60 students. Commencing the academic year 2011, a post-graduate course in Power Electronics and 2014 in Power Systems was started. The department has full fledged laboratories, workshops and P.G. labs. The department is staffed with qualified, experienced and dedicated members who engage in research activities.. The department with active support from the management is aiming to expand its research activities and industrial consultancies.

ABOUT COURSE

Power quality and reliability issues are big challenges to both service provider and consumers in conventional power grids. The ongoing technological advancements in the Internet of Things (IoT) era provide better solutions to enhance the management of these challenges and enforce the measures of a Smart Grid (SG). Advanced Metering Infrastructure (AMI) and Smart Metering (SM) technologies are enabler technologies that can modernize the conventional power grid through exposing the hidden details of electrical power by introducing two-way communication scheme during power transaction process between utilities and consumers. Throughout

literature, AMI and SM technologies are widely discussed. However, few studies discuss the role of SM in power quality and reliability monitoring in IoT-enabled SGs. Hence, the paper aims to comprehensively review the feasibility of employing SM for power quality and reliability monitoring. First, we provide a detailed overview about the SMs, wireless communication technologies, and routing algorithms as enabling technologies in AMI. Then, we categorize the existing literature works that target power quality and reliability monitoring. Finally, open research issues are outlined based on shortages in the existing literature.

TOPICS TO BE COVERED

Day 1: Introduction to innovative smart grid technologies, using IOT in smart grid

Day 2: IOT applications in smart grid, advanced metering infrastructure[AMI] technology

Day 3: Machine learning in AMI, wireless communication in AMI

Day 4: Routing algorithms

Day 5: Smart meters and Reliability

For any further information Contact Mr K NARAYANA RAO, Assistant Professor, EEE, and Smt S SUJATHA DEVI Assistant Professor, EEE

CHIEF PATRON

Smt.M.Gnaneswari
President, Avanthi Educational Society

PATRON

Dr. C P V N J Mohan Rao
Principal,
Avanthi Institute Of Engineering And Technology

CHAIRMAN

Dr. T Srinivasa Rao
Head of the Department
Electrical & Electronics Engineering

COORDINATORS

K Narayana Rao
Asst. Professor

S Sujatha Devi
Asst. Professor



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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

CIRCULAR

Date: 07/10/2020

A short term course on “*IoT In Smart Grid*” for all the IV Year II Semester students of Electrical and Electronics Engineering Department is scheduled from 12th Oct 2020 to 16th Oct 2020. All the students should attend the course without fail. For further information contact course coordinators Mr. K. Narayana Rao, & Smt. S. Sujatha Devi, Assistant Professor, EEE.

Resource Person Details:

1. Dr. Y.V.Pavan Kumar
Associate Professor,
Department of EEE
VIT-AP University,
Amaravathi, Andhra Pradesh.
2. Sri Ch. Venkata Rao,
Assistant Professor,
Department of EEE
Gayatri Vidya Parishad College of Engineering,
Visakhapatnam.

Dr. T Srinivasa Rao

Head of the Department, EEE

Copy to: Principal, AIET

Head of the Department
Department of Electrical & Electronics Engg.
Avanathi Institute of Engg & Tech.
Makavarapalem, Visakhapatnam - 531113.



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IOT IN SMART GRID

Duration: 12-10-2020 to 16-10-2020

SYLLABUS

- Day 1:** Introduction to innovative smart grid technologies, using IOT in smart grid
- Day 2:** IOT applications in smart grid, advanced metering infrastructure[AMI] technology
- Day 3:** Machine learning in AMI, wireless communication in AMI
- Day 4:** Routing algorithms
- Day 5:** Smart meters and Reliability


COORDINATOR


HOD

**Head of the Department
Department of Electrical & Electronics Engg.
Avanathi Institute of Engg & Tech.
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IOT IN SMART GRID

Schedule

Duration: 12-10-2020 to 16-10-2020

DAY/DATE	Live Session - 1 09.00AM to 12.30 PM	Live Session - 2 1 PM to 4 PM
Monday 12/10/2020	Overview of Related Surveys	Smart Meters & Power Reliability
Tuesday 13/10/2020	Smart Meter Internal Structure	Metering Infrastructure of Microcontroller, Power Supply Unit, Energy Measurement Unit
Wednesday 14/10/2020	Supervised Learning Algorithms	Semi Supervised Learning Algorithms
Thursday 15/10/2020	Delay, Security, Coverage	Scalability, Firmware Updates, Cost
Friday 16/10/2020	Techniques Embedded In SM For PQ Analysis	Wavelet Transform(WT), Fast Fourier Transform(FFT)

COORDINATOR

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IOT In Smart Grid

From 12th Oct 2020 to 16th Oct 2020

3rd Year Students Attendance

S.NO	ROLL NUMBER	STUDENT NAME	12 Oct	13 Oct	14 Oct	15 Oct	16 Oct
1	18811A0201	BENIYA GNANESWARA RAO	✓	✓	✓	✓	✓
2	18811A0202	CHACHUPATLA ROSHINI	✓	✓	✓	✓	✓
3	18811A0203	KILLI YOGESH	✓	X	✓	✓	✓
4	18811A0204	KOROPOLU BHAGYARAJU	✓	✓	✓	✓	✓
5	18811A0205	LALAM HEMANTH KUMAR	✓	✓	✓	✓	✓
6	18811A0206	MURUKUTTI PREMAKUMAR	✓	✓	✓	✓	✓
7	18811A0207	PAILA SAIRAM	✓	✓	✓	✓	✓
8	18811A0208	THOTA VASU	✓	✓	✓	X	✓
9	18811A0209	VEMULAPUDI MAHESH	✓	✓	✓	✓	✓
10	19815A0201	ADDURU SAI KUMAR	✓	✓	✓	✓	✓
11	19815A0202	BANDARU HEMANTH KUMAR	✓	✓	✓	✓	✓
12	19815A0203	BANDARU NAIDU	✓	✓	✓	✓	✓
13	19815A0204	BANTU LAKSHMANA RAO	✓	✓	✓	✓	✓
14	19815A0205	BHEEMARASETTI ADITYA VENKATESWARA RAO	✓	✓	✓	✓	✓
15	19815A0206	BONGU RAVIKUMAR	✓	✓	✓	✓	✓
16	19815A0207	CHALAPAREDDY JAGAN KUMAR	✓	X	✓	✓	✓
17	19815A0208	CHUKKA SAIRAJ	✓	✓	✓	✓	✓
18	19815A0209	DADI CHINNA	✓	✓	✓	✓	✓
19	19815A0210	DEVAREDDY SRINU	✓	✓	✓	✓	✓
20	19815A0211	GANAGALLA SATISH	✓	✓	✓	✓	✓
21	19815A0212	GATREDDI TEJA	✓	✓	✓	✓	✓
22	19815A0213	GOLLU VENKATA RAMANA	✓	✓	✓	✓	✓
23	19815A0214	GUMMIDI JAGADEESH	✓	✓	✓	✓	X
24	19815A0215	KONA SIVA GANESH	✓	✓	✓	✓	✓
25	19815A0216	KONATHALA GOPINADH	✓	✓	✓	✓	✓
26	19815A0217	KOTHAPALLI VEERA SAI	✓	✓	✓	✓	✓

27	19815A0218	KUNDURU RAGA SUDHA	✓	✓	✓	✓	✓
28	19815A0219	LAGUDU MOHAN SIVA DURGA PRASAD	✓	✓	✓	✓	✓
29	19815A0220	LANKA NAVEEN	✓	✓	✓	✓	✓
30	19815A0221	LEKKALA SWARNALATHA	✓	✓	✓	✓	✓
31	19815A0222	LALAM DURGA PRASAD	✓	✓	✓	✗	✓
32	19815A0223	MAMIDI LOKESH	✓	✓	✓	✓	✓
33	19815A0224	MATTURTHI BHARGAVA	✓	✓	✓	✓	✓
34	19815A0225	NADIPALLI PUSHPANJILI	✓	✓	✓	✓	✓
35	19815A0226	NAKKA THARUNKUMAR	✓	✓	✓	✗	✓
36	19815A0227	PATCHARA SIVA KUMAR	✓	✓	✓	✓	✓
37	19815A0228	PATNALA DURGA PRASADU	✓	✓	✓	✓	✓
38	19815A0229	POLAVARAPU RAM KARUN KUMAR	✓	✓	✓	✓	✓
39	19815A0230	SETTI SWAMY	✓	✓	✓	✓	✓
40	19815A0231	SHEIK SHARIFUDDIN	✓	✓	✓	✓	✓
41	19815A0232	THAMMANA YASWANATH	✓	✗	✓	✓	✓
42	19815A0233	TUMPALA MOHAN MANU	✓	✓	✓	✓	✓
43	19815A0234	VANTEDDU LINGA CHAKRADHAR	✓	✓	✓	✓	✓
44	19815A0235	VARADI LEELE SAI	✓	✓	✓	✓	✓
45	19815A0236	YETTULA KIRAN KUMAR	✓	✓	✓	✗	✓
46	19815A0237	ARUGULA APARNA	✓	✓	✓	✓	✓
47	19815A0238	PARAVADA PAVANKUMAR	✓	✓	✓	✓	✓
48	19815A0239	GOLLAVILLI SURESH	✓	✓	✓	✓	✓

[Signature]
Coordinator

H O
12/01/2020

Head of the Department
Department of Electrical & Electronics Engg.
Avanathi Institute of Engg & Tech.
Makavarapalem, Visakhapatnam - 531113.



AVANTHI

INSTITUTE OF ENGINEERING AND TECHNOLOGY

Tamaram (V), Makavarapalem (M), Visakhapatnam Dist. 531113.

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Certificate of Participation

This is to certify that Mr./Ms. _____ of
_____ has participated in the Certificate Course entitled
on **IOT IN SMART GRID** during from 12TH OCT 2020 to 16TH OCT 2020 was
organised by the Department of **ELECTRICAL AND ELECTRONICS ENGINEERING**
at Avanathi Institute of Engineering and Technology.

Coordinator

HOD

Principal



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Department of Electrical and Electronics Engineering

Dt: 20-10-2020

BRIEF REPORT

Department of Electrical and Electronics Engineering, Avanthi Institute of Engineering and Technology had organized a certificate course on "IOT IN SMART GRID" during 12-10-2020 to 16-10-2020

We had Dr. Y. V. Pavan Kumar Associate Professor , Electrical and Electronics Engineering, VIT-AP University as a speaker he started the technologies that make today's IoT-enabled energy grid include wireless devices such as sensors, radio modules, gateways and routers. These devices provide the sophisticated connectivity and communications that empower consumers to make better energy usage decisions, allow cities to save electricity and expense and enables power authorities to more quickly restore power after a blackout. He also told that the growing trend today for municipalities is to move toward smart grid technologies for a range of reasons.

Sri Ch.Venkata Rao Asst., Professor, Electrical and Electronics Engineering, Gayatri Vidya Parishad explained about machine learning in AMI, A wireless Communication In AMI and include the need to improve energy usage, provide better customer service to their citizens, prepare for disasters and upgrade aging technology that is expensive to maintain. He also explained about the routing algorithms, smart meters and reliability stands as a special content in this course. Students felt the course introduction is very useful.


Coordinator


Head of the Department

Head of the Department
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