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INSTITUTE OF ENGINEERING AND TECHNOLOGY

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Redefining Technologies
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Department of Electrical & Electronics Engineering

ELECTRICAL ENGINEERS CLUB

REPORT ON INDUSTRIAL VISIT

The Department of Electrical and Electronic Engineering and EEC (Electrical Engineers Club), Gokaraju Rangaraju College of Engineering and Technology organized a two day Industrial visit to ANALOGICS TECH INDIA LTD. on 17th and 18th May 2018 at two different branches in Hyderabad i.e., Nacharam branch and Kompally, Gundlapochampalli branch.

DAY 1:

Date :17/05/2018
Ref : GRIET/EEE/7/G/18-19

Venue : Analogics Tech India ltd., Nacharam branch .

Time :12:30pm - 5:00pm

Attended by : B.Tech Third year students, EEE[60] ; M.Tech EEE students[20]; Faculty [3].

Reported by : Electrical Engineers Club, Documentation Team.

Signature of HOD

EEC-Coordinator

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Report

A batch of III B.Tech EEE, M.Tech students and three faculty members visited the Analogics Tech India ltd., Nacharam branch on 17.05.2018. This unit mainly focused on the Solar power plants, Monitoring System Manufacture, GIS Solution Provision, Biometric Sensors Manufacture ,Vehicle Tracking System Manufacture.

The students were split into four groups and led by faculty. Each group went through same sessions in order. Initially the students were led to the presentation room and the attending at the company addressed the students and gave a brief introduction about Analogics Tech India Ltd. that, it is the first electronic manufacturing company to supply Hand Held Terminals for Spot Billing and Collection solution to the Power Utility Sector in India. It provides solutions in core sectors like Electricity, Water, Transport, Banking, Financial Inclusion, Solar Power, Police, Public Distribution System(PDS), Insurance utilities, etc. Automatic Meter Reader (AMR) an advanced meter reading device which automatically collects data from Electronic Energy Meters using optical port and transfers the acquired data to the server was explained.

Later, students were shown the solar power plant R&D and Solar Water Pump Controller with built in MPPT & VFD live models.

Solar Water Pump Controller with built in MPPT & VFD:
Power produced by Solar PV panels will be delivered to Solar water pump controller, which converts the DC power to AC power to operate water pump The Solar water pump controller automatically regulates output frequency according to solar radiation intensity with built in MPPT tracking function. It is compatible with both linear and non-linear loads.

SOLAR PANELS

Solar Water Pump Controller with built in MPPT & VFD

KisanMitra Lifeline :

LIFE LINE, a beneficial solution to farmers, consists of Solar Water Pump Controller and an added feature to export excess solar power to the utility grid. The solution promises additional revenue to farmer, who can export power to grid when water pumping is not required (during non seasonal time/ water not available to pump/ water pump is turned off).

GRID TIED INVERTER

Then the students were proceeded to the production unit and control unit at the company. The various stages of assembling the components onto PCB were shown in the production unit. It comprised of designing the layout with utmost precision using the software. Later the iron led which is usually used for soldering is taken in paste form and is applied onto the board in a machine which is managed manually. The board is then passed onto another machine where the components are mounted on the PCB. Here the (x, y) co-ordinates of the allocation position of component is identified and then the suitable nozzle as per the size of the component is chosen. Utilizing the nozzle the machine mounts the components as required/programmed. The mounting process happens at a very high speed of almost 800 components in two and half minutes which is very impressive. The board is then passed onto heating unit where the iron led melts and cools down and the component is firmly placed.

PRODUCTION-UNIT

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LAYOUT OF THE PCB AND MACHINE FOR APPLICATION OF IRON-LED PASTE .

MACHINE FOR MOUNTING OF COMPONENTS.

Thus the miniature components are soldered using the machines while the other components were soldered manually in the next section. The completed boards are sent for quality check to the quality control room and then to the manufacturing unit.

During this session, students interacted with the attendant's effectively and learnt the practical application in industrially oriented manner.

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Group Photo (B.Tech)

STUDENTS, FACULTY AND THE MEMBERS OF ANALOGICS TECH INDIA LTD.

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DAY 2:

Date **:**18/05/2018

Venue **:** Analogics Tech India ltd., Kompally, Gundlapochampalli branch.

Time **:** 2:00pm - 5:00pm

Attended by **:** B.Tech Third year students, EEE[ ] ; M.Tech EEE students[ ]; Faculty [3].

Reported by : Electrical Engineers Club, Documentation Team.

The unit at Gundlapochampalli branch is mainly focused on the Plastic Processing Machinery and Plastic enclosure R&D. The students were led to presentation room and a brief presentation about the unit was given by one of the leads at the place.

The different stages in the process line of manufacturing were specified as a series of stages i.e., concept, product design, prototype development, mould development and production. The product designing was done using 3D software's such as pro-e and solid works etc. The procedure involved in Injection molding machine was briefed. The various product outlines/skeletons and their prototypes manufactured at the industry such as Mobile Attendance, PDS, Biometric products, Traffic Violation Management System , Bluetooth 2" Thermal Printer , Domestic Spot Billing(CMR) were shown. The upcoming digital reading water meter was shown which is very innovative as no kind of tampering can be done when installed. The outline of grid tied inverter, railway ticket issuing machine were also shown during the presentation.

Later, the students were given a close look at the tool room followed by Production unit. At the production unit, injection molding machine and few other molding machines few of which were operated using manual strength while others used heating and cooling principle were shown. The main materials used for manufacturing plastic enclosures are poly-carbonate(PCB), nylon, ABS etc as per the application. The material as per requirement is put into the machine and the settings are done manually i.e. the heating and cooling temperatures, time of application etc. The Output will be as per the mould shape which can be changed as per requirement and production is done in huge numbers.

The industrial visit gave the students an insight of functioning of the industries and have helped to bridge the gap between the theoretical and practical knowledge.

Student body is grateful to the EEE Department , Mr. V. Vijaya Rama Raju (HOD,EEE DEPT) and EEC (Electrical engineers club) , Mr. A.Vinay kumar (Associate prof.) for organizing the event.

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INJECTION MOULDING MACHINE.

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STUDENTS HAVING AN ONE ON ONE INTERACTION WITH THE PERSONNEL.

MACHINERY.

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STUDENT BODY, FACULTY MEMBERS ALONG WITH THE MEMBERS OF ANALOGICS TECH INDIA LTD.

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List of students participated

S.No	Name	S.No	Name
1	Anem Joseph Raju	31	Nenavath Lalitha
2	Batta Vandana	32	Nunavath Naresh
3	Bobba Sowmya	33	Nunna Veeravenkata Pavan Kiran
4	Byra Tarun Teja	34	P Pranay Karthik
5	Chamakura Apoorva Reddy	35	Paaka Vijayanand Sagar
6	Cheripally Tharun Kumar	36	Palapala Harika
7	Chinta Harika	37	Pathipaka Pavan Kumar
8	Chintalpudi Rajeev Lochan	38	Pikkalla Shivasai
9	Dantika Venkatesh	39	Prashant Agarwal
10	G Rohan	40	R Mounika
11	Gampala Pranasvini Harini	41	Sai Sandeepya Jonnavithula
12	Gandla Navya	42	Salepu Sai Yagnyesh
13	Godala Sai Kumar Reddy	43	Samala Snehith
14	Gudelli Sai Prayojith	44	Sanjukta Raychaudhuri
15	Gundekari Harish	45	Sarepaka Susmitha
16	Gurujwada Eshwari	46	Sunkasari Bhavana
17	Jadi Sai Kiran	47	Thirukkovella Manikanta
18	Jadigham Srikanth	48	Thogari Raviteja
19	Kailasam Lakshmi Narayanan	49	Vuppalapati Yashwanth Kalyan
20	Kallepalli Ravi Varma	50	Vale Salman Saqir
21	Kasani Keerthi	51	Vallabhaneni Athish Chowdary

22	Kavali Sree Harsha	52	Vanka Sree Satya
23	Kokkula Sumith Goutham	53	Velichala Kalyani
24	Koluguri Krishna Teja Reddy	54	Yalla John Pranoy
25	M Aishwarya	55	Yelasoju Krushna
26	Manda Shalom Anuraag	56	Yelisetty Gopal
27	Mangipudi Sri Lalitha	57	Yeshala Sai Kumar
28	Manuri Naveen	58	BANAM PRAMITH
29	Mogal Oways Baig	59	BANDI MANIDEEP
30	Naroji Ganga Prasad	60	BUDDULA MADHURI

S.No.	NAME	S.No	Student Name
1	Anchula Nagarjuna	11	SIRAM ROHITH KRISHNA
2	Badepalle Yogeswara Reddy	12	VISHAL KUMAR SINGH
3	Baireddy Ekanath Reddy	13	RAMIDI DIVYA
4	B.Keerthi	14	CHOPPADANDI SRIKANTH
5	B.T. Prashant Singh	15	SUDHAVENA RAVINDER GOUD
6	Guguloth Kalpana	16	PERAM SWATHI
7	Mallela Uday Kiran	17	CHIPPA SRIKANTH
8	M.Vaishanavi	18	KODURU SRIRANGA SUPRABHATH
9	Naspuri Arun Raju	19	DAMERSHETTY JITHENDER
10	PVSG Prasad	20	KOTTE SAISREE REDDY