DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR REOPRT

"EMBEDDED SYSTEM"

22.07.2016

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR

On

"EMBEDDED SYSTEM"

RESOURCE PERSON	: MR. S. RANGANATHAN PROJECT ENGINEER MICROWIN AUTOMATION TRICHY, INDIA
KEY NOTE ADDRESS	: Dr.P.RANJITHKUMAR Principal, MAMSE, Trichy
SPECIAL ADDRESS	: Mrs. KAVITHA.P HOD, Dept of Mechatronics
ABOUT PROGRAMME	: Mr.PRADEEP CASTRO. P Asst.Prof, Dept of Mechatronics
VENUE	: SMART CLASSROOM, MAMSE
DATE	: 22nd July 2016
TIME	:10.00 AM to 12:00 PM

20.07.2016

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 22.07.2016 in your esteemed daily.

Programme	:"EMBEDDED SYSTEMS"
Date &Time	: 22nd July 2016 at 10.00 am to 12.00 pm
Venue	: College Auditorium, M.A.M. School of Engineering.
Chief Guest	: Mr. S. RANGANATHAN PROJECT ENGINEER MICROWIN AUTOMATION TRICHY, INDIA

Thanking you,

Warm regards,

PRINCIPAL

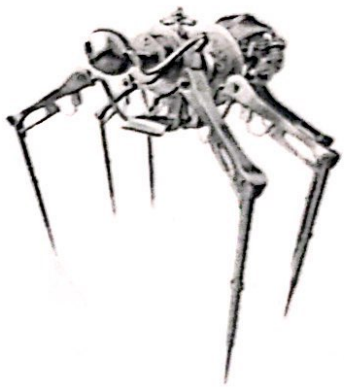
M.A.M. SCHOOL OF ENGINEERING
SIRUGANUR- TIRUCHIRAPPALLI – 621 105
DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Seminar 1

NAME OF SEMINAR: Embedded system

DATE and TIME: 22nd July 2016 at 10.00 am to 12.00 pm

VENUE: SMART CLASSROOM



RESOURCE PERSON NAME: Mr. S. RANGANATHAN

DESIGNATION: PROJECT ENGINEER, MICROWIN AUTOMATION
TRICHY, INDIA

DETAILS: Refer Annexure 1

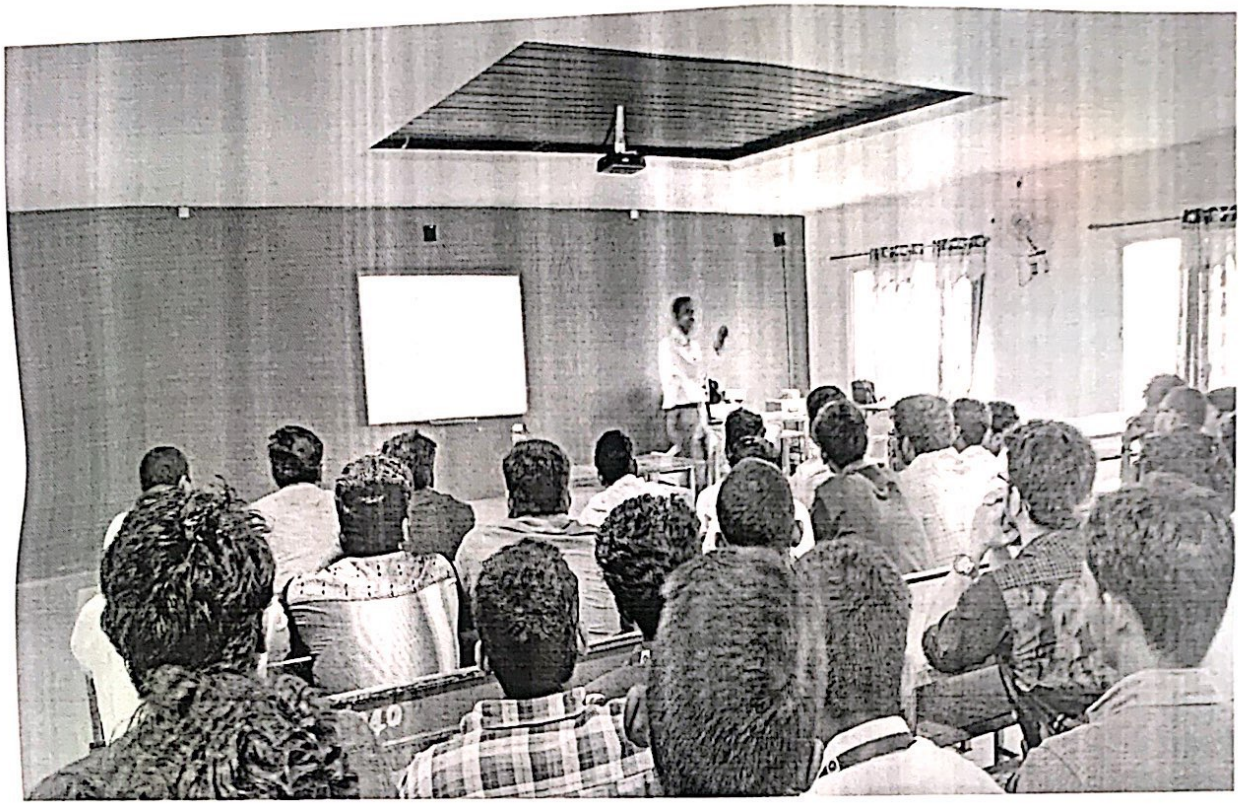
ORGANIZED BY: P.Pradeep Castro, Assistant Professor, Dept. of Mechatronics Engg.

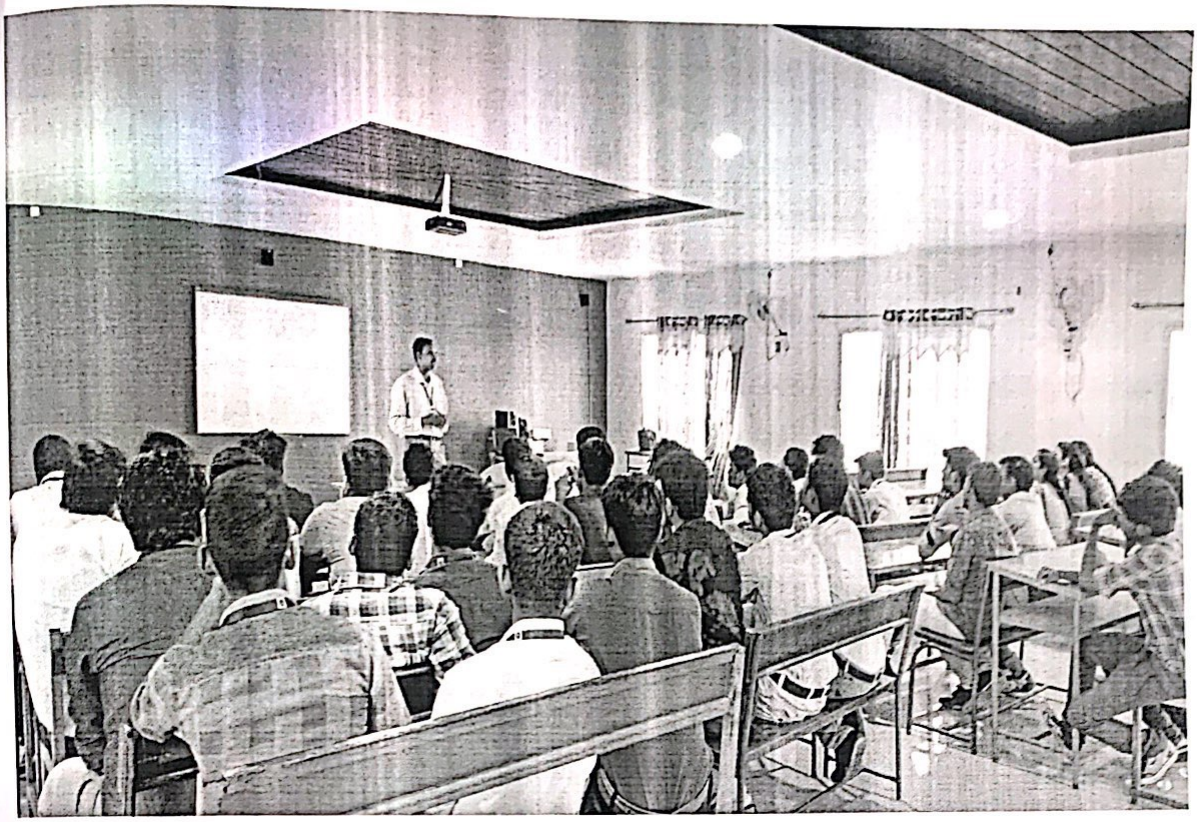
NO. OF STUDENTS ATTENDED: 50 No's

SUMMARY:

The Program commenced at 10:00AM at the Smart classroom. Mr. S. RANGANATHAN gave a brief introduction about EMBEDDED SYSTEM. Video demonstrations about EMBEDDED technology were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from P.Gajendran, IV Year Mechatronics, on behalf of the mechatronics students.

PHOTOGRAPH: Attached





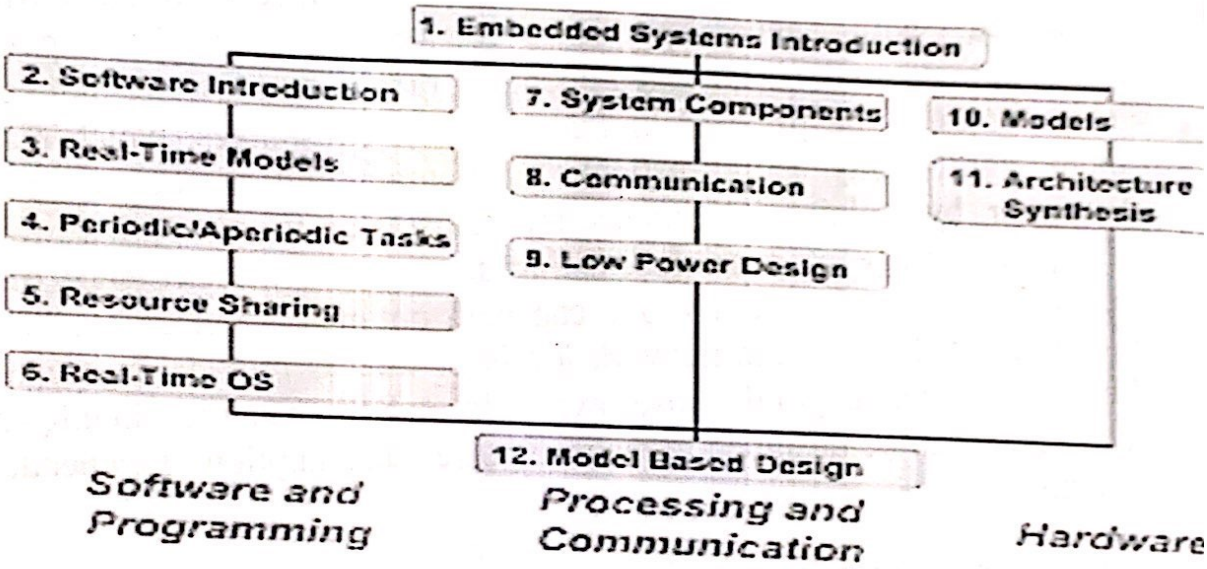
An **embedded system** is a computer system with a dedicated function within a larger mechanical or electrical system, often with real-time computing constraints.[1][2] It is embedded as part of a complete device often including hardware and mechanical parts. Embedded systems control many devices in common use today.[3] Ninety-eight percent of all microprocessors are manufactured as components of embedded systems.[4]

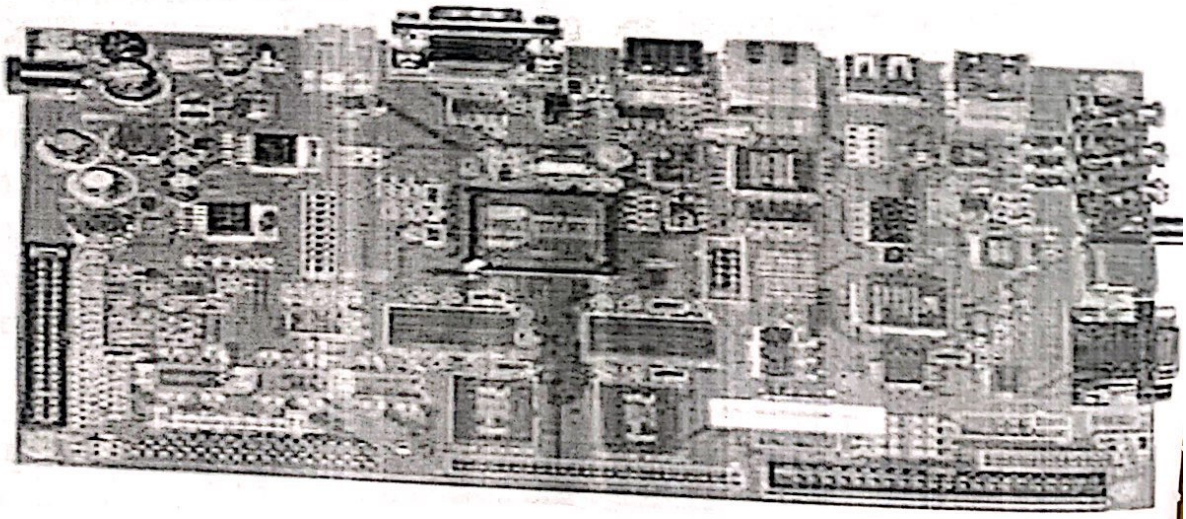
Examples of properties of typically embedded computers when compared with general-purpose counterparts are low power consumption, small size, rugged operating ranges, and low per-unit cost. This comes at the price of limited processing resources, which make them significantly more difficult to program and to interact with. However, by building intelligence mechanisms on top of the hardware, taking advantage of possible existing sensors and the existence of a network of embedded units, one can both optimally manage available resources at the unit and network levels as well as provide augmented functions, well beyond those available.[5] For example, intelligent techniques can be designed to manage power consumption of embedded systems.[6]

Modern embedded systems are often based on microcontrollers (i.e. CPUs with integrated memory or peripheral interfaces),[7] but ordinary microprocessors (using external chips for memory and peripheral interface circuits) are also common, especially in more-complex systems. In either case, the processor(s) used may be types ranging from general purpose to those specialised in certain class of computations, or even custom designed for the application at hand. A common standard class of dedicated processors is the digital signal processor (DSP).

Since the embedded system is dedicated to specific tasks, design engineers can optimize it to reduce the size and cost of the product and increase the reliability and performance. Some embedded systems are mass-produced, benefiting from economies of scale.

Embedded systems range from portable devices such as digital watches and MP3 players, to large stationary installations like traffic lights, factory controllers, and largely complex systems like hybrid vehicles, MRI, and avionics. Complexity varies from low, with a single microcontroller chip, to very high with multiple units, peripherals and networks mounted inside a large chassis or enclosure.





M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV . Mechatronics Date: 22/7/2016

Name of the Programme: Embedded system.

Feedback Report

1. What is your opinion about the duration of this Programme?
   A – Short B – Adequate C – Long

2. Overall, how useful was this Programme for you?
   A – Very Much B – To Some Extent C – Not useful

3. How would you rate the Teaching Qualities?
   A – Very Good B – Good C – Average D – Poor

4. How would you rate the Materials Presented?
   A-Very Good B – Good C – Average D – Poor

5. How much of knowledge you learned today?
   A- a lot of it B – Satisfactory C – None of it

6. Did it fulfill your expectations?
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any): more useful. this much of programme will continue for once weekly once.

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: VI - Mch Date: 22/07/16

Name of the Programme: Embedded Program.

Feedback Report

1. What is your opinion about the duration of this Programme?
   A – Short ~~B~~ – Adequate C – Long

2. Overall, how useful was this Programme for you?
   ~~A~~ – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   ~~A~~-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good ~~B~~ Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it ~~B~~ – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   ~~A~~ Yes B – To Some extent C – No

7. **Planning of this Programme?**
   ~~A~~ – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)

Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV / Mechat Date: 22.7.16

Name of the Programme: Embedded program

Feedback Report

1. What is your opinion about the duration of this Programme?
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

The class is very useful

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV / MECHATRONICS ENGG. Date: 22/07/2016

Name of the Programme: EMBEDDED SYSTEMS.

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any): we like to conduct the program as an workshop for a day.

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV th yrs / Mecht Date: 22-7-16

Name of the Programme: Embedded System

Feedback Report

1. What is your opinion about the duration of this Programme?
   A – Short B – Adequate C – Long

2. Overall, how useful was this Programme for you?
   A – Very Much B – To Some Extent C – Not useful

3. How would you rate the Teaching Qualities?
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II / MECHATRONICS Date: 22.7.16

Name of the Programme: EMBEDDED SYSTEMS

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III - Mechatronics Date: 22/07/16

Name of the Programme: EMBEDDED System

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III / Mechatronics Date: 22/7/16

Name of the Programme: embedded sy stem.

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III / Mechatronics Date: 22.7.16.

Name of the Programme: Embedded System

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR REPORT

"CNC MACHINES"

25.07.2016

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR

On

"CNC MACHINES"

RESOURCE PERSON : Mr. HARIHARAN ,
PROFESSOR &HEAD,
DEPARTMENT OF
MANUFACTURING ENGINEERING
,GUINDY.CHENNAI, INDIA.

KEY NOTE ADDRESS : Dr.P.RANJITHKUMAR
Principal, MAMSE, Trichy

SPECIAL ADDRESS : Mrs. KAVITHA.P
HOD, Dept of Mechatronics

ABOUT PROGRAMME : Mr.PRADEEP CASTRO. P
Asst.Prof, Dept of Mechatronics

VENUE :SMART CLASS ROOM,
MAMSE

DATE : 25TH JULY 2016

TIME :11.00 AM to 12:30 PM

24.07.2016

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 25.07.2016 in your esteemed daily.

Programme	**: SEMINAR ON "CNC MACHINES"**
Date &Time	: 25th July 2016 at 11.00 a.m to 12.30 p.m
Venue	: Smart class room, M.A.M. School of Engineering.
Resource Person	: Mr. HARIHARAN , PROFESSOR &HEAD, DEPARTMENT OF MANUFACTURING ENGINEERING , GUINDY.CHENNAI, INDIA.

Thanking you,

Warm regards,

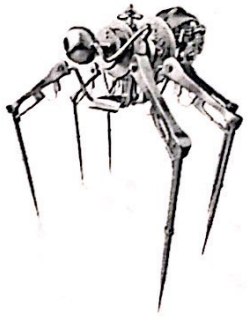
PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR - TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Seminar 2



NAME OF SEMINAR: CNC MACHINES

DATE and TIME: 25th July 2016 at 11.00 a.m to 12.30 p.m

VENUE: Smart class room, M.A.M. School of Engineering.

RESOURCE PERSON 1 NAME: Mr. HARIHARAN

DESIGNATION: Assistant professor & Head , Department of Mechatronics Engineering.

DETAILS: Refer Annexure 1

ORGANIZED BY: P.Pradeep Castro, Assistant Professor, Dept. of Mechatronics Engg.

NO. OF STUDENTS ATTENDED: 50 No's

SUMMARY:

The Program commenced at 11:00AM at the smart class room. Mr.Hariharan gave a brief introduction about CNC MACHINES. Video demonstrations about CNC MACHINE technology were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from IV Year Mechatronics, on behalf of the mechatronics students.

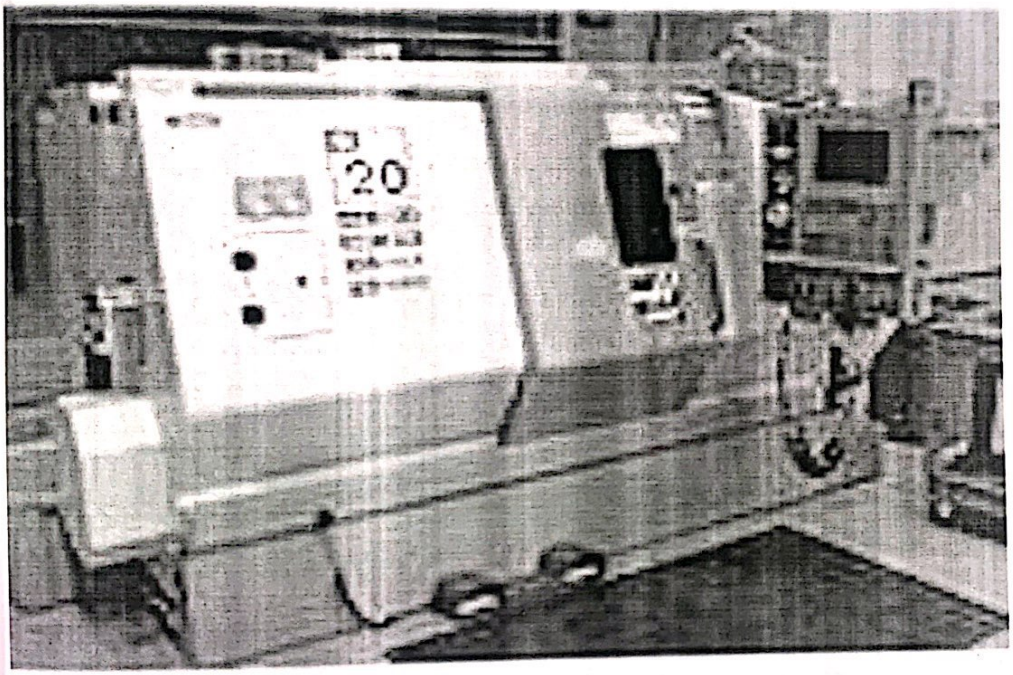
PHOTOGRAPH: Attached

CNC MACHINES

CNC is the short form for Computer Numerical control. We have seen that the NC machine works as per the program of instructions fed into the controller unit of the machine. The CNC machine comprises of the mini computer or the microcomputer that acts as the controller unit of the machine. While in the NC machine the program is fed into the punch cards, in CNC machines the program of instructions is fed directly into the computer via a small board similar to the traditional keyboard.

In CNC machine the program is stored in the memory of the computer. The programmer can easily write the codes, and edit the programs as per the requirements. These programs can be used for different parts, and they don't have to be repeated again and again.

Compared to the NC machine, the CNC machine offers greater additional flexibility and computational capability. New systems can be incorporated into the CNC controller simply by reprogramming the unit. Because of its capacity and the flexibility the CNC machines are called as "soft-wired" NC.

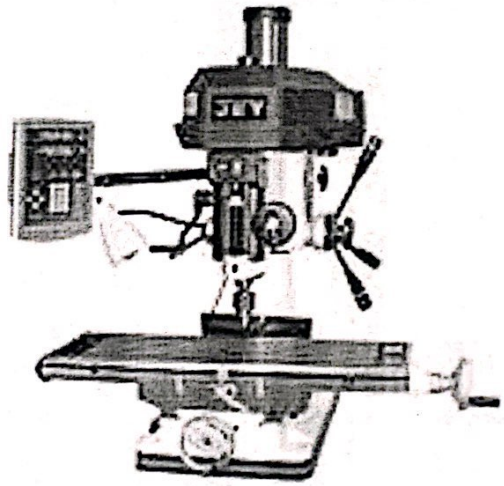


he CNC machine comprises of the computer in which the program is fed for cutting of the metal of the job as per the requirements. All the cutting processes that are to be carried out and all the final dimensions are fed into the computer via the program. The computer thus knows what exactly is to be done and carries out all the cutting processes. CNC machine works like the Robot, which has to be fed with the program and it follows all your instructions.

Some of the common machine tools that can run on the CNC are: Lathe, Milling machines, Drilling Machine etc. The main purpose of these machines is to remove some of the metal so as to give it proper shape such as round, rectangular, etc. In the traditional methods these machines are operated by the operators who are experts in the operation of these machines. Most of the jobs need to be machined accurately, and the operator should be expert enough to make the precision jobs. In the CNC machines the role of the operators is minimized. The operator has to merely feed the program of instructions in the computer, load the required tools in the machine, and rest of the work is done by the computer automatically. The computer directs the machine tool to perform various machining operations as per the program of instructions fed by the operator.

You don't have to worry about the accuracy of the job; all the CNC machines are designed to meet very close accuracies. In fact, these days for most of the precision jobs CNC machine is compulsory. When your job is finished, you don't even have to remove it, the machine does that for you and it picks up the next job on its own. This way your machine can keep on doing the fabrication works all the 24 hours of the day without the need of much monitoring, of course you will have to feed it with the program initially and supply the required raw material.

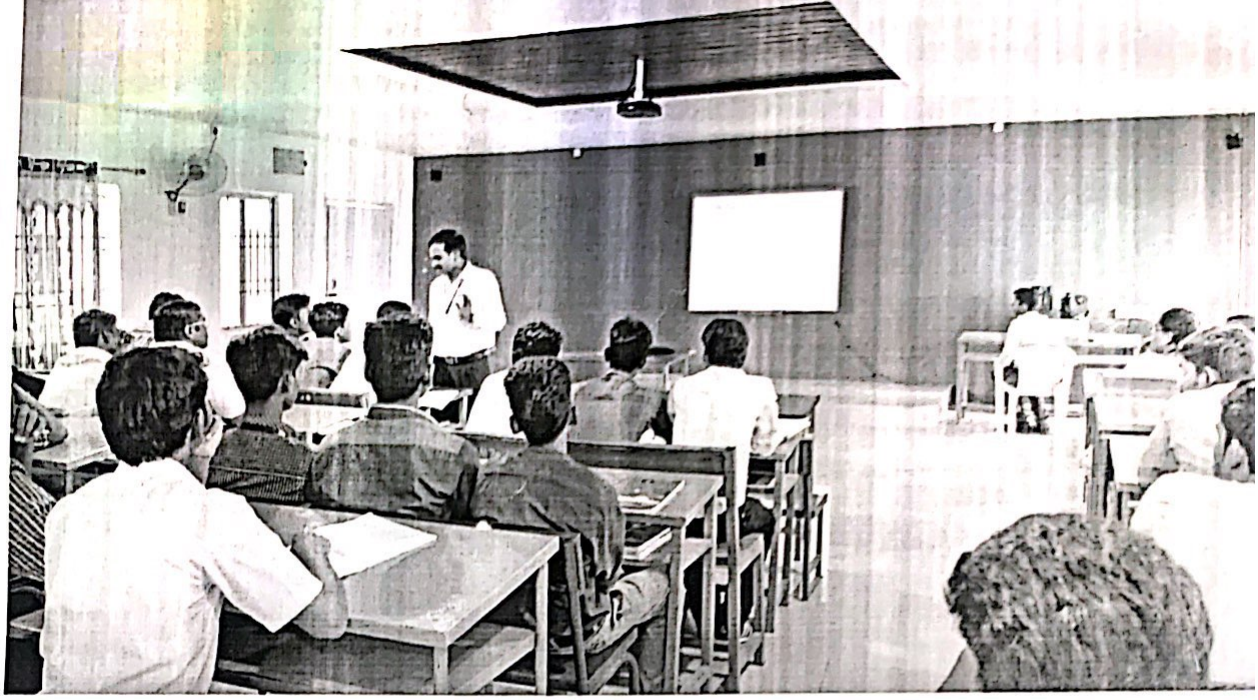
Most of the manufacturing companies are now equipped with the CNC machines as the markets have got very competitive; however, getting the expert labors for operating these machines is becoming quite difficult. Even the machine operators of these days prefer to operate the machine by programming instead of operating it manually. In most of the machine tools training institutes the new operators are taught manual machining as well as CNC machining and programming.

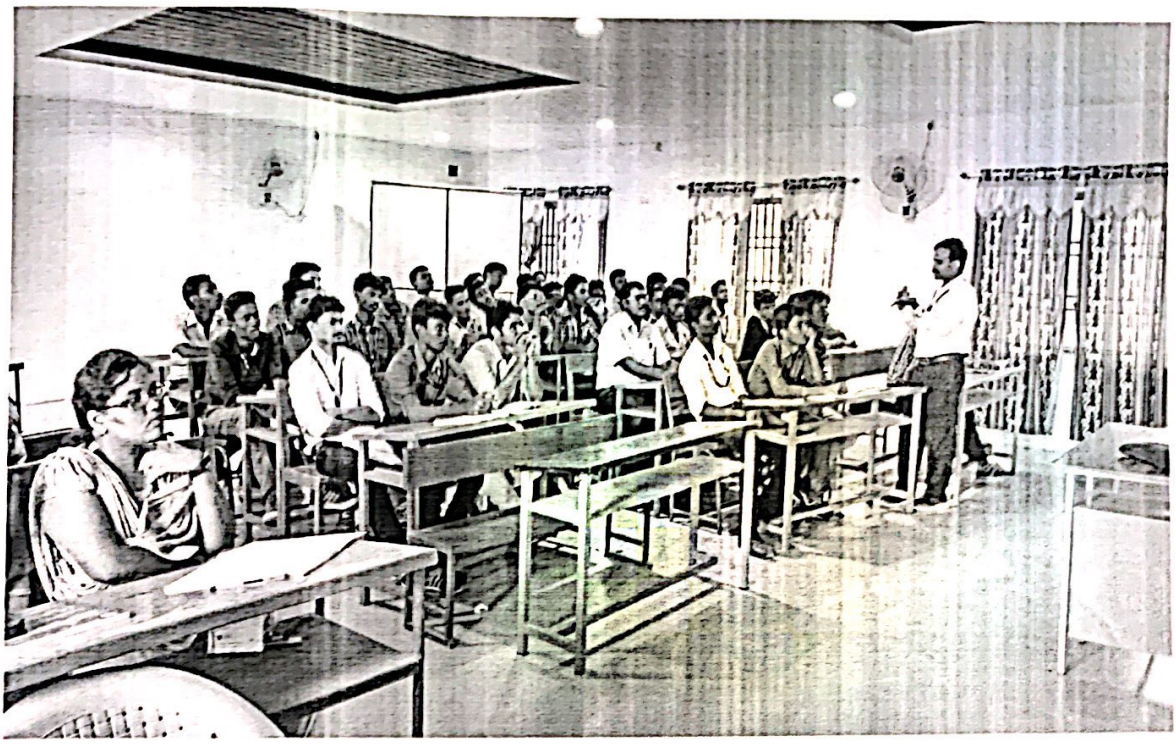


Some Industries where CNC Machining Centers are used

- Industries for removing metal from raw materials
- Fabricating Metals
- Electrical Discharge Machining (EDM) Industry
- Drilling AND routing machines

25/7/16





(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II/MECHT Date: 25/7/2016 016

Name of the Programme: Seminar On "CNC MACHINES"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II/MECHT

Date: 25/7/2016

Name of the Programme: Seminar On "CNC MACHINES"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short (B) – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much (B) – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good (B) – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   (A) Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it (B) Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   (A) – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent (B) – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: Date: 25/1/2016

Name of the Programme: Seminar On "CNC MACHINES"

6

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A – a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

ory

Any Other Comment (if any):

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II/MECHT Date: 25/7/2016

Name of the Programme: Seminar On "CNC MACHINES"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short ~~B~~ Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   ~~A~~ Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good ~~B~~ Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   ~~A-~~ Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it ~~B~~ Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   ~~A~~ Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good ~~C~~ Good D – Satisfactory
   E- Poor

ory

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II/MECHT Date: 25/7/2016

Name of the Programme: Seminar On "CNC MACHINES"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any): —

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR REPORT

"RECENT TRENDS IN INDUSTRIAL AUTOMATION"

19.08.2016

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR

On

"RECENT TRENDS IN **INDUSTRIAL AUTOMATION**"

RESOURCE PERSON : MR. JIJO CHRISTO & MR. PARASURAMAN
APPLICATION ENGINEER
AXIS GLOBAL AUTOMATION
TRICHY, INDIA

KEY NOTE ADDRESS : Dr.P.RANJITHKUMAR
Principal, MAMSE, Trichy

SPECIAL ADDRESS : Mrs. KAVITHA.P
HOD, Dept of Mechatronics

ABOUT PROGRAMME : Mr.PRADEEP CASTRO. P
Asst.Prof, Dept of Mechatronics

VENUE :SEMINOR HALL,
MAMSE

DATE : 19TH AUG 2016

TIME :11.00 AM to 12:30 PM

18.08.2016

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 19.08.2016 in your esteemed daily.

Programme	**: SEMINAR ON "RECENT TRENDS IN INDUSTRIAL AUTOMATION"**
Date &Time	: 19th August 2016 at 11.00 a.m to 12.30 p.m
Venue	: Seminar Hall, M.A.M. School of Engineering.
Resource Person	: 1. MR. Jijo christo, Senior application engineer, Axis Global automation. 2. MR.M.Parasuraman, Application engineer, Axis Global automation.

Thanking you,

Warm regards,

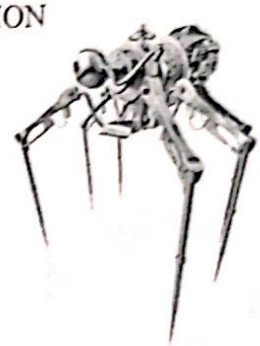
PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR - TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Seminar 2



NAME OF SEMINAR: RECENT TRENDS IN INDUSTRIAL AUTOMATION

DATE and TIME: 19th August 2016 at 11.00 a.m to 12.30 p.m

VENUE: Seminar Hall, M.A.M. School of Engineering.

RESOURCE PERSON 1 NAME: Mr. Jijo christo

DESIGNATION: Senior application Engineer,

Axis Global automation

RESOURCE PERSON 2 NAME: Mr. M.Parasuraman

DESIGNATION: Application Engineer,

Axis Global automation

DETAILS: Refer Annexure 1

ORGANIZED BY: P.Pradeep Castro, Assistant Professor, Dept. of Mechatronics Engg.

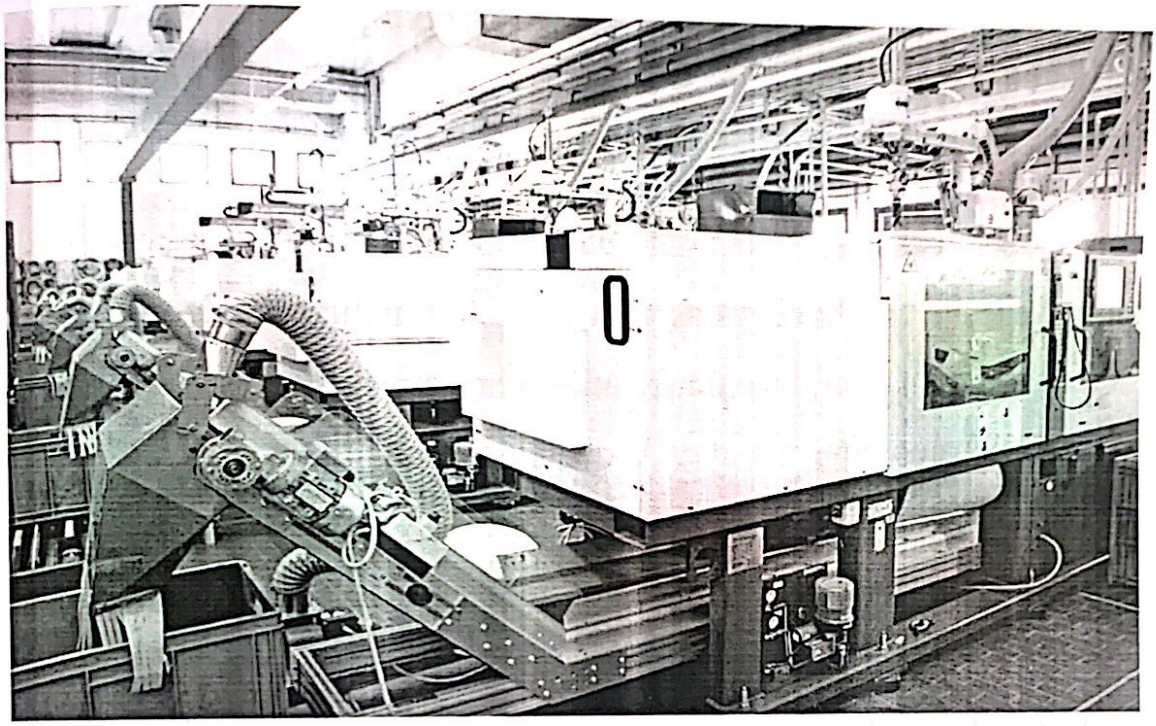
NO. OF STUDENTS ATTENDED: 50 No's

SUMMARY:

The Program commenced at 11:00AM at the Seminar Hall. Mr. Jijo christo & Mr. M.Parasuraman gave a brief introduction about RECENT TRENDS IN INDUSTRIAL AUTOMATION. Video demonstrations about INDUSTRIAL AUTOMATION technology were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from Maheswaran, IV Year Mechatronics, on behalf of the mechatronics students.

PHOTOGRAPH: Attached

Industrial Automation



Industrial automation is the use of control systems, such as computers or robots, and information technologies for handling different processes and machineries in an industry to replace a human being. It is the second step beyond mechanization in the scope of industrialization.

Increase Quality and Flexibility in Your Manufacturing Process

Earlier the purpose of automation was to increase productivity (since automated systems can work 24 hours a day), and to reduce the cost associated with human operators (i.e. wages & benefits). However, today, the focus of automation has shifted to increasing quality and flexibility in a manufacturing process. In the automobile industry, the installation of pistons into the engine used to be performed manually

with an error rate of 1-1.5%. Presently, this task is performed using automated machinery with an error rate of 0.00001%.

Advantages of Industrial Automation

Lower operating cost: Industrial automation eliminates healthcare costs and paid leave and holidays associated with a human operator. Further, industrial automation does not require other employee benefits such as bonuses, pension coverage etc. Above all, although it is associated with a high initial cost it saves the monthly wages of the workers which leads to substantial cost savings for the company. The maintenance cost associated with machinery used for industrial automation is less because it does not often fail. If it fails, only computer and maintenance engineers are required to repair it.

- **High productivity**

  Although many companies hire hundreds of production workers for a up to three shifts to run the plant for the maximum number of hours, the plant still needs to be closed for maintenance and holidays. Industrial automation fulfills the aim of the company by allowing the company to run a manufacturing plant for 24 hours in a day 7 days in a week and 365 days a year. This leads to a significant improvement in the productivity of the company.

- **High Quality**

  Automation alleviates the error associated with a human being. Further, unlike human beings, robots do not involve any fatigue, which results in products with uniform quality manufactured at different times.

- **High flexibility**

  Adding a new task in the assembly line requires training with a human operator, however, robots can be programmed to do any task. This makes the manufacturing process more flexible.

- **High Information Accuracy**

  Adding automated data collection, can allow you to collect key production information, improve data accuracy, and reduce your data collection costs. This provides you with the facts to make the right decisions when it comes to reducing waste and improving your processes.

- **High safety**

  Industrial automation can make the production line safe for the employees by deploying robots to handle hazardous conditions.

Disadvantages of Industrial Automation

- **High Initial cost**

  The initial investment associated with the making the switch from a human production line to an automatic production line is very high. Also, substantial costs are involved in training employees to handle this new sophisticated equipment.

Conclusion

Industrial automation has recently found more and more acceptance from various industries because of its huge benefits, such as, increased productivity, quality and safety at low costs.

19/8/16

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV Yr Date: 19.08.2016

Name of the Programme: RECENT TRENDS IN INDUSTRIAL AUTOMATION

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

B- **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

C- **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III / E&I Date: 19.08.2016

Name of the Programme: Recent Trends In Industrial Automation

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

B- **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

C- **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV / Date: 19.08.16

Name of the Programme: Recent Trend's in Industrial Automation

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)

Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV / Mech Date: 19.8.16

Name of the Programme: Recent Trends in Industrial Automation

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III / MECHT Date: 19.8.2016

Name of the Programme: RECENT TRENDS IN INDUSTRIAL AUTOMATION

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any): —

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III / MECHT Date: 19.8.2016

Name of the Programme: Recent Trends In Industrial Automation

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

B- **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

C- **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any): –

DEPARTMENT OF MECHATRONICS ENGINEERING

WORKSHOP REPORT

"INDUSTRIAL AUTOMATION USING PLC AND SCADA"

22.08.2016

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR

On

"WORKSHOP ON INDUSTRIAL AUTOMATION USING PLC AND SCADA"

RESOURCE PERSON : **MR. BALASUBIRAMANIAN**
MISS. AKSHU
Technical trainer,
Zenith Industrial Automation Training.

KEY NOTE ADDRESS : **Dr.P.RANJITHKUMAR**
Principal, MAMSE, Trichy

SPECIAL ADDRESS : **Mrs. KAVITHA.P**
HOD, Dept of Mechatronics

ABOUT PROGRAMME : **Mr.R.LOGESH,**
Asst.Prof, Dept of Mechatronics

VENUE : **SMART CLASSROOM, MAMSE**

DATE : **22nd AUGUST 2016**

TIME : **11.00 AM to 12:30 PM**

24.08.2016

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 27.08.2016 in your esteemed daily.

Programme	**: WORKSHOP ON INDUSTRIAL AUTOMATION USING PLC**
Date &Time	: 27th August 2016 at 11.00 am to 12.30 pm
Venue	: Smart Class Room, M.A.M. School of Engineering.
Resource Person	:1. Akshu.M-B.E(ECE) Technical tainer, Zenith Industrial Automation Traning. 2.Balasubramanian.V-B.E(ECE) Technical tainer, Zenith Industrial Automation Traning.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of workshop 1

NAME OF WORKSHOP : WORKSHOP ON INDUSTRIAL AUTOMATION USING PLC AND SCADA

DATE and TIME : 27th August 2016 at 11.00 am to 12.30 pm

VENUE : SMART CLASS ROOM, M.A.M. SCHOOL OF ENGINEERING.

RESOURCE PERSON NAME : 1.Akshu.M-B.E(ECE)
2.Balasubramanian.V-B.E(ECE)

DESIGNATION : Technical trainer,
Zenith Industrial Automation Traning.

DETAILS : Refer Annexure 1

ORGANIZED BY : R.LOGESH, Assistant Professor, Dept. of Mechatronics Engg.

NO. OF STUDENTS ATTENDED: 50 No's

SUMMARY:

The Program commenced at 11:00AM at the Smart classroom. Mr.V.Balasubramanian, Miss.Akshu.M. gave a brief introduction about INDUSTRIAL AUTOMATION USING PLC AND SCADA. Video demonstrations about technology were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from P.Gajendran, IV Year Mechatronics, on behalf of the mechatronics students.

PHOTOGRAPH: Attached

A **programmable logic controller**, PLC, or programmable controller is a digital computer used for automation of typically industrial electromechanical processes, such as control of machinery on factory assembly lines, amusement rides, or light fixtures. PLCs are used in many machines, in many industries. PLCs are designed for multiple arrangements of digital and analog inputs and outputs, extended temperature ranges, immunity to electrical noise, and resistance to vibration and impact. Programs to control machine operation are typically stored in battery-backed-up or non-volatile memory. A PLC is an example of a "hard" real-time system since output results must be produced in response to input conditions within a limited time, otherwise unintended operation will result.

Before the PLC, control, sequencing, and safety interlock logic for manufacturing automobiles was mainly composed of relays, cam timers, drum sequencers, and dedicated closed-loop controllers. Since these could number in the hundreds or even thousands, the process for updating such facilities for the yearly model change-over was very time consuming and expensive, as electricians needed to individually rewire the relays to change their operational characteristics.

Digital computers, being general-purpose programmable devices, were soon applied to control industrial processes. Early computers required specialist programmers, and stringent operating environmental control for temperature, cleanliness, and power quality. Using a general-purpose computer for process control required protecting the computer from the plant floor conditions. An industrial control computer would have several attributes: it would tolerate the shop-floor environment, it would support discrete (bit-form) input and output in an easily extensible manner, it would not require years of training to use, and it would permit its operation to be monitored. The response time of any computer system must be fast enough to be useful for control; the required speed varying according to the nature of the process.[1] Since many industrial processes have timescales easily addressed by millisecond response times, modern (fast, small, reliable) electronics

greatly facilitate building reliable controllers, especially because performance can be traded off for reliability.

In 1968 GM Hydra-Matic (the automatic transmission division of General Motors) issued a request for proposals for an electronic replacement for hard-wired relay systems based on a white paper written by engineer Edward R. Clark. The winning proposal came from Bedford Associates of Bedford, Massachusetts. The first PLC, designated the 084 because it was Bedford Associates' eighty-fourth project, was the result.[2] Bedford Associates started a new company dedicated to developing, manufacturing, selling, and servicing this new product: Modicon, which stood for MOdular DIgital CONtroller. One of the people who worked on that project was Dick Morley, who is considered to be the "father" of the PLC.[3] The Modicon brand was sold in 1977 to Gould Electronics, later acquired by German Company AEG, and then by French Schneider Electric, the current owner.

One of the very first 084 models built is now on display at Modicon's headquarters in North Andover, Massachusetts. It was presented to Modicon by GM, when the unit was retired after nearly twenty years of uninterrupted service. Modicon used the 84 moniker at the end of its product range until the 984 made its appearance.

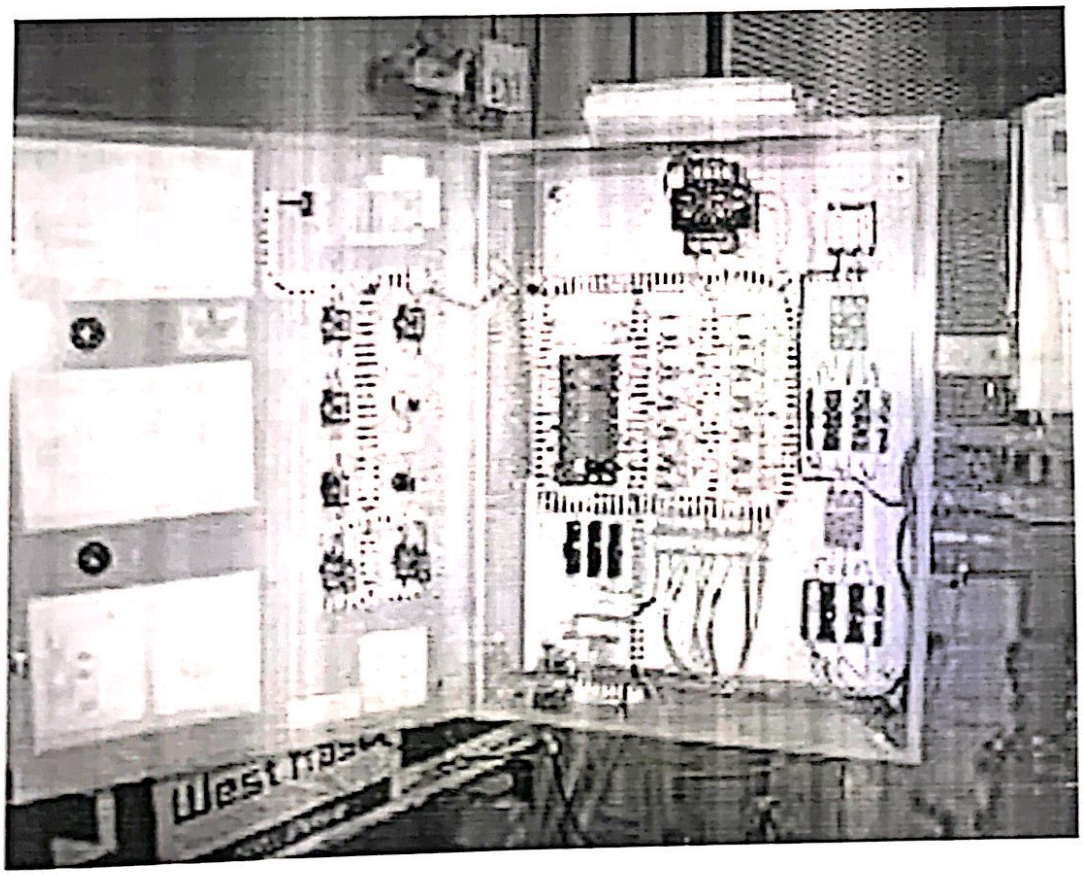
The automotive industry is still one of the largest users of PLCs.

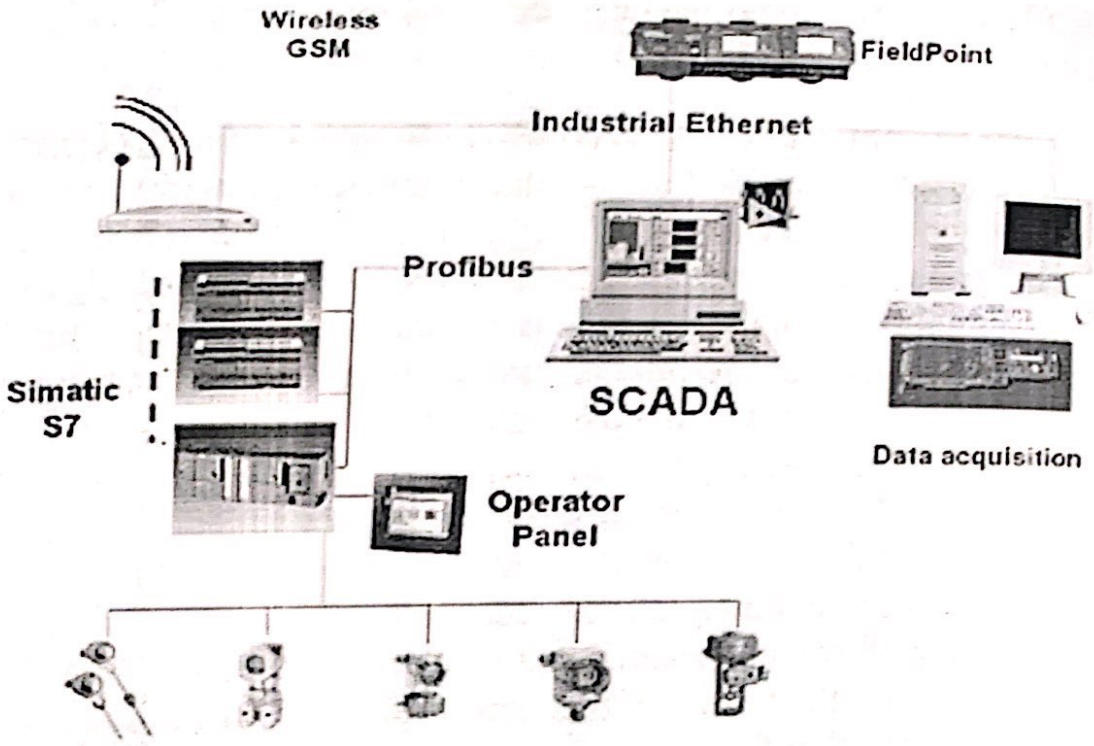
Early PLCs were designed to replace relay logic systems. These PLCs were programmed in "ladder logic", which strongly resembles a schematic diagram of relay logic. This program notation was chosen to reduce training demands for the existing technicians. Other early PLCs used a form of instruction list programming, based on a stack-based logic solver.

Modern PLCs can be programmed in a variety of ways, from the relay-derived ladder logic to programming languages such as specially adapted dialects of BASIC and C. Another method is state logic, a very

high-level programming language designed to program PLCs based on state transition diagrams.

Many early PLCs did not have accompanying programming terminals that were capable of graphical representation of the logic, and so the logic was instead represented as a series of logic expressions in some version of Boolean format, similar to Boolean algebra. As programming terminals evolved, it became more common for ladder logic to be used, for the aforementioned reasons and because it was a familiar format used for electromechanical control panels. Newer formats such as state logic and Function Block (which is similar to the way logic is depicted when using digital integrated logic circuits) exist, but they are still not as popular as ladder logic. A primary reason for this is that PLCs solve the logic in a predictable and repeating sequence, and ladder logic allows the programmer (the person writing the logic) to see any issues with the timing of the logic sequence more easily than would be possible in other formats.





Supervisory control and data acquisition (SCADA) is a system for remote monitoring and control that operates with coded signals over communication channels (using typically one communication channel per remote station).

The control system may be combined with a data acquisition system by adding the use of coded signals over communication channels to acquire information about the status of the remote equipment for display or for recording functions.[1] It is a type of industrial control system (ICS). Industrial control systems are computer-based systems that monitor and control industrial processes that exist in the physical world. SCADA systems historically distinguish themselves from other ICS systems by being large-scale processes that can include multiple sites, and large distances.[2] These processes include industrial, infrastructure, and facility-based processes, as described below:

- Industrial processes include those of manufacturing, production, power generation, fabrication, and refining, and may run in continuous, batch, repetitive, or discrete modes.
- Infrastructure processes may be public or private, and include water treatment and distribution, wastewater collection and treatment, oil and gas pipelines, electrical power transmission and distribution, wind farms, civil defense siren systems, and large communication systems.
- Facility processes occur both in public facilities and private ones, including buildings, airports, ships, and space stations. They monitor and control heating, ventilation, and air conditioning systems (HVAC), access, and energy consumption.

P. Kavi 23/8/16

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

"ARDUINO UNO"

05.01.2017

11/1/17

H.O.D

PRINCIPAL

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUSET LECTURE

on

"ARDUINO UNO"

RESOURCE PERSON	: MR. K.C.TAMIL VENDAN DIRECTOR, LIFT TECHNOLOGIES, TRICHY,
KEY NOTE ADDRESS	: DR.P.RANJITHKUMAR PRINCIPAL, MAMSE, TRICHY
SPECIAL ADDRESS	: MRS. KAVITHA.P HOD, DEPT OF MECHATRONICS ENGINEERING
ABOUT PROGRAMME	: MR.R.LOGESH A.P, DEPT OF MECHATRONICS ENGINEERING
VENUE	: SMART CLASSROOM, MAMSE
DATE	: 05.01.2017
TIME	:11.00 AM TO 12:30 PM

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Guest Lecture

Title : ARDUINO UNO

DATE and TIME: 05.01.17 , 11.00 am to 12.30 pm

VENUE: SMART CLASSROOM

RESOURCE PERSON : Mr. K.C.TAMIL VENDHAN

DESIGNATION: Director LIFT TECHNOLOGIES, TRICHY

ORGANIZED BY: R.LOGESH, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED: 50

SUMMARY:

The Program commenced at 11:00AM at the Smart classroom. Mr. K.C.Tamil Vendhan gave a brief introduction about Arduino UNO. Video demonstrations about Arduino UNO were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from P.Hariharan, IV Year Mechatronics .

PHOTOGRAPH: Attached

ARDUINO UNO

Arduino is a computer hardware and software company, project, and user community that designs and manufactures microcontroller kits for building digital devices and interactive objects that can sense and control objects in the physical world. The project's products are distributed as open-source hardware and software, which are licensed under the GNU Lesser General Public License (LGPL) or the GNU General Public License (GPL), permitting the manufacture of Arduino boards and software distribution by anyone. Arduino boards are available commercially in preassembled form, or as do-it-yourself kits.

The project's board designs use a variety of microprocessors and controllers. These systems provide sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards ("shields") and other circuits. The boards feature serial communications interfaces, including Universal Serial Bus (USB) on some models, for loading programs from personal computers. The microcontrollers are mainly programmed using a dialect of features from the programming languages C and C++. In addition to using traditional compiler tool chains, the Arduino project provides an integrated development environment (IDE) based on the Processing language project.

The Arduino project started in 2005 as a program for students at the Interaction in Ivrea, Italy, aiming to provide a low-cost and easy way for novices and professionals to create devices that interact with their environment using sensors and actuators. Common examples of such devices intended for beginner hobbyists include simple robots, thermostats, and motion detectors.

P. Lavi
5/1/17.

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III - Mech

Date: 05/01/2017

Name of the Programme: Seminar On "ARDUINO UNO"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III - Mech Date: 05/01/2017

Name of the Programme: Seminar On "ARDUINO UNO"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II Mechatronics Date: 05/01/2017

Name of the Programme: Seminar On "ARDUINO UNO"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III - Mech Date: 05/01/2017

Name of the Programme: Seminar On "ARDUINO UNO"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV - Mech Date: 05/01/2017

Name of the Programme: Seminar On "ARDUINO UNO"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A- Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A- Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

"IMCC – INTELLIGENT MOTOR CONTROL CENTER"

12.01.2017

HOD 17/1/17

PRINCIPAL.

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

10.01.2017

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 12.01.2017 in your esteemed daily.

Programme	:	**Guest Lecture on "IMCC - INTELLIGENT MOTOR CONTROL CENTER"**
Date &Time	:	12th January 2017 at 11.00 am to 12.30 pm
Venue	:	Smart Class Room, M.A.M. School of Engineering
Resource Person	:	Mr.Gowtham & Mr.Vijay Balaji Application Engineers, Axis Global Automation

Thanking you,

Warm regards.

PRINCIPAL

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUSET LECTURE

on

"IMCC – INTELLIGENT MOTOR CONTROL CENTER"

RESOURCE PERSON	: MR. GOWTHAM & MR. VIJAY BALAJI APPLICATION ENGINEERS, AXIS GLOBAL AUTOMATION, TRICHY
KEY NOTE ADDRESS	: DR.P.RANJITHKUMAR PRINCIPAL, MAMSE, TRICHY
SPECIAL ADDRESS	: MRS. KAVITHA.P HOD, DEPT OF MECHATRONICS ENGINEERING
ABOUT PROGRAMME	: MR.P.KARTHICK SELVAM A.P, DEPT OF MECHATRONICS ENGINEERING
VENUE	: SMART CLASSROOM, MAMSE
DATE	: 12.01.2017
TIME	:11.00 AM TO 12:30 PM

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Guest Lecture

TITLE : GUEST LECTURE ON "IMCC - INTELLIGENT MOTOR CONTROL CENTER"

DATE and TIME: 12.01.17 , 11.00 am to 12.30 pm

VENUE: SMART CLASSROOM

RESOURCE PERSON : Mr.Gowtham & Mr.Vijay Balaji

DESIGNATION: Application Engineers, Axis Global Automation

ORGANIZED BY: G.SARANYA, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED: 40

SUMMARY:

The Program commenced at 11:00AM at the Smart classroom. Mr. Gowtham & Mr.Vijay Balaji gave a brief introduction about IMCC - INTELLIGENT MOTOR CONTROL CENTER. Video demonstrations about IMCC - INTELLIGENT MOTOR CONTROL CENTER were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from EZHILMARAN.M, IV Year Mechatronics..

PHOTOGRAPH: Attached

INTELLIGENT MOTOR CONTROL CENTERS

The role of a basic MCC is to provide a compact, modular grouping for motor control and electrical distribution components. An MCC as a filing cabinet, with drawers full of combination starters, lighting contactors, and other electrical distribution and control products. Historically, MCC units were electromechanical, with basic functions that included a power switching device, short-circuit and overload protection, local and remote actuation, and controller state indication. There are a number of reasons for MCC popularity:

- MCCs provide a single source for coordination of components. Electrical distribution and motor control equipment can be purchased as a pre-assembled, pre-tested system—usually at a less expensive installed cost when compared to separately mounted controls.
- MCCs require significantly less line-side power wiring than separate controls, which makes them easier to install.
- MCCs come in space-efficient packaging, with excellent configuration flexibility. They also centralize maintenance.
- MCCs offer excellent fault containment and electrical component isolation.

Use of open networks, distributed I/Os, and electronic components is one way of defining an MCC as intelligent. Typically, intelligent systems have three things in common:

- Control is achieved through a microprocessor-based system
- Network technology is used to replace hardwiring
- Some degree of enhanced diagnostic or protective functionality is included.

While many associate these technologies with intelligence, another definition has nothing to do with the technology involved. In today's competitive business environment, perhaps the definition of an intelligent MCC should be as simple as a unit that provides equivalent or greater functionality more economically. In other words, an intelligent MCC is simply an MCC that maximizes the value of the components in a given application.

17/1/12

INTELLIGENT MOTOR CONTROL CENTERS

The role of a basic MCC is to provide a compact, modular grouping for motor control and electrical distribution components. An MCC as a filing cabinet, with drawers full of combination starters, lighting contactors, and other electrical distribution and control products. Historically, MCC units were electromechanical, with basic functions that included a power switching device, short-circuit and overload protection, local and remote actuation, and controller state indication. There are a number of reasons for MCC popularity:

- MCCs provide a single source for coordination of components. Electrical distribution and motor control equipment can be purchased as a pre-assembled, pre-tested system—usually at a less expensive installed cost when compared to separately mounted controls.
- MCCs require significantly less line-side power wiring than separate controls, which makes them easier to install.
- MCCs come in space-efficient packaging, with excellent configuration flexibility. They also centralize maintenance.
- MCCs offer excellent fault containment and electrical component isolation.

Use of open networks, distributed I/Os, and electronic components is one way of defining an MCC as intelligent. Typically, intelligent systems have three things in common:

- Control is achieved through a microprocessor-based system
- Network technology is used to replace hardwiring
- Some degree of enhanced diagnostic or protective functionality is included.

While many associate these technologies with intelligence, another definition has nothing to do with the technology involved. In today's competitive business environment, perhaps the definition of an intelligent MCC should be as simple as a unit that provides equivalent or greater functionality more economically. In other words, an intelligent MCC is simply an MCC that maximizes the value of the components in a given application.

P. Kaur
14/1/12.

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

"INTERNET OF THINGS (IOT)"

16.03.2017

H.O.D 20/3/17

PRINCIPAL

15.03.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 16.03.2017 in your esteemed daily.

Programme	**: Internet Of Things (IOT)**
Date &Time	: 16th March 2017 at 11.30 am to 1.00 pm
Venue	: Smart Class Room, M.A.M. School of Engineering
Resource Person	: Mr. Naveen Kumar, Software Designer, SS Soft Solutions, Trichy.

Thanking you,

Warm regards.

PRINCIPAL

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUSET LECTURE

on

"INTERNET OF THINGS(IOT)"

RESOURCE PERSON	: MR. NAVEEN KUMAR, SOFTWARE DESIGNER, SS SOFT SOLUTIONS, TRICHY
KEY NOTE ADDRESS	: DR.P.RANJITHKUMAR PRINCIPAL, MAMSE, TRICHY
SPECIAL ADDRESS	: MRS. KAVITHA.P HOD, DEPT OF MECHATRONICS ENGINEERING
ABOUT PROGRAMME	: MR.R.LOGESH A.P, DEPT OF MECHATRONICS ENGINEERING
VENUE	: SMART CLASSROOM, MAMSE
DATE	: 16.03.2017
TIME	:11.00 AM TO 12:30 PM

INTERNET OF THINGS

Terms and Basic Definitions

Below, we've provided a glossary defining the Internet of Things:

- **Internet of Things:** A network of internet-connected objects able to collect and exchange data using embedded sensors.
- **Internet of Things device:** Any stand-alone internet-connected device that can be monitored and/or controlled from a remote location.
- **Internet of Things ecosystem:** All the components that enable businesses, governments, and consumers to connect to their IoT devices, including remotes, dashboards, networks, gateways, analytics, data storage, and security.
- **Entity:** Includes businesses, governments, and consumers.
- **Physical layer:** The hardware that makes an IoT device, including sensors and networking gear.
- **Network layer:** Responsible for transmitting the data collected by the physical layer to different devices.
- **Application layer:** This includes the protocols and interfaces that devices use to identify and communicate with each other.
- **Remotes:** Enable entities that utilize IoT devices to connect with and control them using a dashboard, such as a mobile application. They include smartphones, tablets, PCs, smartwatches, connected TVs, and nontraditional remotes.
- **Dashboard:** Displays information about the IoT ecosystem to users and enables them to control their IoT ecosystem. It is generally housed on a remote.
- **Analytics:** Software systems that analyze the data generated by IoT devices. The analysis can be used for a variety of scenarios, such as predictive maintenance.
- **Data storage:** Where data from IoT devices is stored.
- **Networks:** The internet communication layer that enables the entity to communicate with their device, and sometimes enables devices to communicate with each other.

IoT Predictions, Trends, and Market

BI Intelligence, Business Insider's premium research service, expects there will be more than 24 billion IoT devices on Earth by 2020. That's approximately four devices for every human being on the planet.

And as we approach that point, $6 billion will flow into IoT solutions, including application development, device hardware, system integration, data storage, security, and connectivity. But that will be money well spent, as those investments will generate $13 trillion by 2025.

Who will reap these benefits? There are three major entities that will use IoT ecosystems: consumers, governments, and businesses. For more detail, see the Industries section below.

IoT Industries

Several environments within the three groups of consumers, governments, and ecosystems will benefit from the IoT. These include:

Manufacturing	Transportation	Defense	Agriculture
Infrastructure	Retail	Logistics	Banks
Oil, gas, and mining	Insurance	Connected Home	Food Services
Utilities	Hospitality	Healthcare	Smart Buildings

IoT Companies

There are literally hundreds of companies linked to the Internet of Things, and the list should only expand in the coming years. Here are some of the major players that have stood out in the IoT to this point:

Honeywell (HON)	Hitachi	T-Mobile (TMUS)	Comcast (CMCSA)
GE (GE)	AT&T (T)	Cisco (CSCO)	IBM (IBM)
Amazon (AMZN)	Skyworks (SWKS)	Apple (AAPL)	Sierra Wireless (SWIR)
Google (GOOGL)	Iridium Communications (IRDM)	Ambarella (AMBA)	ARM Holdings (ARMH)
Texas Instruments (TXN)	PTC (PTC)	Fitbit (FIT)	ORBCOMM (ORBC)
Garmin (GRMN)	Blackrock (BLK)	InvenSense (INVN)	Microsoft (MSFT)
Control4 (CTRL)	Silicon Laboratories (SLAB)	CalAmp (CAMP)	LogMeIn (LOGM)
InterDigital (IDCC)	Ruckus Wireless (RKUS)	Linear Technology (LLTC)	Red Hat (RHT)
Nimble Storage (NMBL)	Silver Spring Networks (SSNI)	Zebra Technologies (ZBRA)	Arrow Electronics (ARW)

IoT Platforms

One IoT device connects to another to transmit information using Internet transfer protocols. IoT platforms serve as the bridge between the devices' sensors and the data networks.

The following are some of the top IoT platforms on the market today:

- Amazon Web Services
- Microsoft Azure
- ThingWorx IoT Platform
- IBM's Watson
- Cisco IoT Cloud Connect
- Salesforce IoT Cloud
- Oracle Integrated Cloud
- GE Predix

IoT Security & Privacy

As devices become more connected thanks to the IoT, security and privacy have become the primary concern among consumers and businesses. In fact, the protection of sensitive data ranked as the top concern (at 36% of those polled) among enterprises, according to the 2016 Vormetric Data Threat Report.

Cyber attacks are also a growing threat as more connected devices pop up around the globe. Hackers could penetrate connected cars, critical infrastructure, and even people's homes. As a result, several tech companies are focusing on cyber security in order to secure the privacy and safety of all this data.

More to Learn

BI Intelligence has compiled an exhaustive and detailed report on the Internet of Things that is your one-stop resource for all you need to know about the IoT.

The report gives a thorough outlook on the future of the Internet of Things, including the following big picture insights:

- IoT devices connected to the Internet will more than triple by 2020, from 10 billion to 34 billion. IoT devices will account for 24 billion, while traditional computing devices (e.g. smartphones, tablets, smartwatches, etc.) will comprise 10 billion.
- Nearly $6 trillion will be spent on IoT solutions over the next five years.
- Businesses will be the top adopter of IoT solutions because they will use IoT to 1) lower operating costs; 2) increase productivity; and 3) expand to new markets or develop new product offerings.
- Governments will be the second-largest adopters, while consumers will be the group least transformed by the IoT.

And when you dig deep into the report, you'll get the whole story in a clear, no-nonsense presentation:

- The complex infrastructure of the Internet of Things distilled into a single ecosystem

- The most comprehensive breakdown of the benefits and drawbacks of mesh (e.g. ZigBee, Z-Wave, etc.), cellular (e.g. 3G/4G, Sigfox, etc.), and internet (e.g. Wi-Fi, Ethernet, etc.) networks
- The important role analytics systems, including edge analytics, cloud analytics, will play in making the most of IoT investments
- The sizable security challenges presented by the IoT and how they can be overcome
- The four powerful forces driving IoT innovation, plus the four difficult market barriers to IoT adoption
- Complete analysis of the likely future investment in the critical IoT infrastructure: connectivity, security, data storage, system integration, device hardware, and application development
- In-depth analysis of how the IoT ecosystem will change and disrupt 16 different industries

To get your copy of this invaluable guide to the IoT universe, choose one of these options:

1. Subscribe to an ALL-ACCESS Membership with BI Intelligence and gain immediate access to this report AND over 100 other expertly researched deep-dive reports, subscriptions to all of our daily newsletters, and much more. >> **START A MEMBERSHIP**
2. Purchase the report and download it immediately from our research store. >> **BUY THE REPORT**

The choice is yours. But however you decide to acquire this report, you've given yourself a powerful advantage in your understanding of the fast-moving world of the IoT.

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Guest Lecture

TITLE: GUEST LECTURE ON "INTERNET OF THINGS (IOT)"

DATE and TIME: 16.03.17, 11.00 am to 12.30 pm

VENUE: SMART CLASSROOM

RESOURCE PERSON: Mr.Naveen Kumar

DESIGNATION: Software Designer, SS Soft solutions

ORGANIZED BY: G.SARANYA, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED: 50

SUMMARY:

The Program commenced at 11:00AM at the Smart classroom. Mr.Naveen Kumar gave a brief introduction about Internet of Things. Video demonstrations about Internet of Things were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from Vignesh, III Year Mechatronics.

PHOTOGRAPH: Attached

20/3/17

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III – MECH Date: 16.03.2017

Name of the Programme: INTERNET OF THINGS

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: 3RD / MECH Date: 16/3/17.

Name of the Programme: INTERNET OF THINGS

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II / Mechatronics Date: 16.3.17

Name of the Programme: INTERNET OF THINGS

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

B- **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

C- **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

"RECENT TRENDS IN ROBOTICS"

09.03.2017

H.O.D

PRINCIPAL

07.03.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 09.03.2017 in your esteemed daily.

Programme	**: Recent trends in Robotics**
Date &Time	: 9th March 2017 at 11.30 am to 1.00 pm
Venue	: Smart Class Room, M.A.M. School of Engineering
Resource Person	: Mr.P.Karthick Selvam,
	Assistant Professor, MAMSE,
	Trichy.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUSET LECTURE

on

"RECENT TRENDS IN ROBOTICS"

SPEAKER	**: MR. P.KARTHICK SELVAM,** **ASSISTANT PROFESSOR, MAMSE**
KEY NOTE ADDRESS	**: MRS. KAVITHA.P** **HOD,DEPT OF MECHATRONICS ENGINEERING**
SPECIAL ADDRESS	**:MS.S.CHANDRA VADIVU** **A.P, DEPT OF MECHATRONICS ENGINEERING**
ABOUT PROGRAMME	**: MR.R.LOGESH** **A.P, DEPT OF MECHATRONICS ENGINEERING**
VENUE	**: SMART CLASSROOM, MAMSE**
DATE	**: 09.03.2017**
TIME	**:11.00 AM TO 12:30 PM**

Six Recent Trends in Robotics and Their Implications

1. Commercial Investments

Recently the commercial sector has made significant investments in robotics. Google has bought several robotics companies. Amazon has bought Kiva Systems and morphed it into Amazon Robotics. Qualcomm has also made investments in robotics. Last week, Toyota, one of the world's largest car makers, announced a big push into AI and robotics. Even venture capitalists, who for many years didn't seem particularly attracted to robotics, are now extremely interested in funding robot startups. Hopefully, these will lead to the adoption of robotics in new applications and accelerate key technology developments, perhaps even propelling the field into what could become a "virtuous cycle of explosive growth."

2. Emergence of New International Players

Traditionally, robotics advances mostly came from Japan, the United States, and a few European countries. Now the field is expanding and new international players are emerging. China is making significant investments in robotics. Chinese manufacturers are currently leading the world in terms of procurement of new industrial robots. They are also developing their own low-cost industrial robots. The largest commercial drone maker DJI is from China. South Korea leads the world in terms of robots deployed per 10,000 workers. Recently, a South Korean team built the robot [pictured above] that won the DARPA Robotics Challenge, beating teams from the United States, Europe, and Japan. Switzerland, the Netherlands, and United Arab Emirates are among some of the other countries investing heavily in AI, robotics, and drones. The globalization of robotics is expected to create new opportunities and challenge the leadership of the traditional players.

3. Reduction in Hardware Costs

The cost of industrial robots such as articulated manipulators and mobile robotic platforms, as well as drones, has been declining in the commercial sector. This is expected to enable deployment of robots and drones in new applications. The agricultural sector is being projected as a major new market for robots and UAVs.

4. Popularity of Drones in Civilian Sector

The use of drones in the civilian sector both domestically and internationally is expected to grow at a rapid rate. Unfortunately, these robots have major vulnerability from the cyber security perspective. Recent examples of hacking of cars illustrate the vulnerability of these vehicles to cyber-attacks. New cyber-security technologies are needed to deal with attacks that can commandeer vehicles and cause physical damage. A serious incident in this area can influence public opinion and cause a major setback for this emerging field.

"Cloud robotics has the potential of freeing robots from computing constraints and giving robots 'big enough brains' to deal with challenging situations that they couldn't deal with before."

5. Cloud Robotics

Robots can leverage clouds to do massive data processing and exchange information with other robots in real time. Cloud robotics has the potential of freeing robots from computing constraints and giving robots "big enough brains" to deal with challenging situations that they couldn't deal with before. Advances in big data are also being embraced by the robotics community to deal with the massive data generated by sensor-rich robots.

6. Leveraging Social Media Data

Robots now have access to data on social media. They can mine data (like images, videos, and maps) on social media and, using AI techniques such as deep learning algorithms, gain new "perception" capabilities that can in turn expand their ability to "understand" the environment. Social media can also be used to crowd source demonstrations for helping robots acquire new skills.

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Guest Lecture

TITLE: GUEST LECTURE ON "RECENT TRENDS IN ROBOTICS"

DATE and TIME: 09.03.17, 11.00 am to 12.30 pm

VENUE: SMART CLASSROOM

SPEAKER: Mr.P.KARTHICK SELVAM

DESIGNATION: ASSISTANT PROFESSOR / MAMSE

ORGANIZED BY: G.SARANYA, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED: 45

SUMMARY:

The Program commenced at 11:00AM at the Smart classroom. Mr.P.KARTHICK SELVAM gave a brief introduction about recent trends in Robotics. Video demonstrations about Innovative Automation were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from Anbuvelmani IV Year Mechatronics.

PHOTOGRAPH: Attached

12/3/17

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV / Mech. Date: 9/3/17.

Name of the Programme: Robotics

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

B- **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

C- Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: III / MECHT Date: 9/3/17.

Name of the Programme: Recent Trends in Robotics.

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: II / Mechatronics. Date: 9/3/17.

Name of the Programme:

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

"INNOVATIVE AUTOMATION"

02.03.2017

H.O.D

PRINCIPAL

28.02.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 02.03.2017 in your esteemed daily.

Programme	**: Innovative Automation**
Date &Time	: 2nd March 2017 at 11.30 am to 1.00 pm
Venue	: Smart Class Room, M.A.M. School of Engineering
Resource Person	: Mr.Kumar, General Manager, Axis Global Automation, Trichy.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUSET LECTURE

on

"INNOVATIVE AUTOMATION"

RESOURCE PERSON	: MR. KUMAR, GENERAL MANAGER, AXIS GLOBAL AUTOMATION, TRICHY
KEY NOTE ADDRESS	: DR.P.RANJITHKUMAR PRINCIPAL, MAMSE, TRICHY
SPECIAL ADDRESS	: MRS. KAVITHA.P HOD, DEPT OF MECHATRONICS ENGINEERING
ABOUT PROGRAMME	: MR.R.LOGESH A.P, DEPT OF MECHATRONICS ENGINEERING
VENUE	: SMART CLASSROOM, MAMSE
DATE	: 02.03.2017
TIME	:11.00 AM TO 12:30 PM

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Guest Lecture

TITLE: GUEST LECTURE ON "INNOVATIVE AUTOMATION"

DATE and TIME: 02.03.17, 11.00 am to 12.30 pm

VENUE: SMART CLASSROOM

RESOURCE PERSON: Mr.Kumar

DESIGNATION: General Manager, Axis Global Automation

ORGANIZED BY: G.SARANYA, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED: 50

SUMMARY:

The Program commenced at 11:00AM at the Smart classroom. Mr.Kumar gave a brief introduction about Innovative Automation. Video demonstrations about Innovative Automation were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 12:30PM with a vote of thanks from Anbuvelmani, IV Year Mechatronics.

PHOTOGRAPH: Attached

Automation

Automation or **automatic control**, is the use of various control systems for operating equipment such as machinery, processes in factories, boilers and heat treating ovens, switching on telephone networks, steering and stabilization of ships, aircraft and other applications and vehicles with minimal or reduced human intervention. Some processes have been completely automated.

The biggest benefit of automation is that it saves labor; however, it is also used to save energy and materials and to improve quality, accuracy and precision.

The term *automation*, inspired by the earlier word *automatic* (coming from *automaton*), was not widely used before 1947, when Ford established an automation department. It was during this time that industry was rapidly adopting feedback controllers, which were introduced in the 1930s.

Automation has been achieved by various means including mechanical, hydraulic, pneumatic, electrical, electronic devices and computers, usually in combination. Complicated systems, such as modern factories, airplanes and ships typically use all these combined techniques.

Open-loop and closed-loop (feedback) control

Fundamentally, there are two types of control loop; open loop control, and closed loop (feedback) control.

In open loop control, the control action from the controller is independent of the "process output" (or "controlled process variable"). A good example of this is a central heating boiler controlled only by a timer, so that heat is applied for a constant time, regardless of the temperature of the building. (The control action is the switching on/off of the boiler. The process output is the building temperature).

In closed loop control, the control action from the controller is dependent on the process output. In the case of the boiler analogy this would include a thermostat to monitor the building temperature, and thereby feedback a signal to ensure the controller maintains the building at the temperature set on the thermostat. A closed loop controller therefore has a feedback loop which ensures the controller exerts a

control action to give a process output the same as the "Reference input" or "set point". For this reason, closed loop controllers are also called feedback controllers.

The definition of a closed loop control system according to the British Standard Institution is 'a control system possessing monitoring feedback, the deviation signal formed as a result of this feedback being used to control the action of a final control element in such a way as to tend to reduce the deviation to zero.' "

Likewise; "A *Feedback Control System* is a system which tends to maintain a prescribed relationship of one system variable to another by comparing functions of these variables and using the difference as a means of control.'"

The advanced type of automation that revolutionized manufacturing, aircraft, communications and other industries, is feedback control, which is usually *continuous* and involves taking measurements using a sensor and making calculated adjustments to keep the measured variable within a set range. The theoretical basis of closed loop automation is control theory.

Control actions

The control action is the form of the controller output action.

Discrete control (on/off)

One of the simplest types of control is *on-off* control. An example is the thermostat used on household appliances which either opens or closes an electrical contact. (Thermostats were originally developed as true feedback-control mechanisms rather than the on-off common household appliance thermostat.)

Sequence control, in which a programmed sequence of *discrete* operations is performed, often based on system logic that involves system states. An elevator control system is an example of sequence control.

A **proportional–integral–derivative controller (PID controller)** is a control loop feedback mechanism (controller) widely used in industrial control systems.

A PID controller continuously calculates an *error value* as the difference between a desired setpoint and a measured process variable and applies a correction based on proportional, integral, and derivative terms, respectively (sometimes denoted *P*, *I*, and *D*) which give their name to the controller type.

The theoretical understanding and application dates from the 1920s, and they are implemented in nearly all analogue control systems; originally in mechanical controllers, and then using discrete electronics and latterly in industrial process computers.

Sequential control and logical sequence or system state control

Sequential control may be either to a fixed sequence or to a logical one that will perform different actions depending on various system states. An example of an adjustable but otherwise fixed sequence is a timer. States refer to the various conditions that can occur in a use or sequence scenario of the system. An example is an elevator, which uses logic based on the system state to perform certain actions in response to its state and operator input. For example, if the operator presses the floor n button, the system will respond depending on whether the elevator is stopped or moving, going up or down, or if the door is open or closed, and other conditions.

An early development of sequential control was relay logic, by which electrical relays engage electrical contacts which either start or interrupt power to a device. Relays were first used in telegraph networks before being developed for controlling other devices, such as when starting and stopping industrial-sized electric motors or opening and closing solenoid valves. Using relays for control purposes allowed event-driven control, where actions could be triggered out of sequence, in response to external events. These were more flexible in their response than the rigid single-sequence cam timers. More complicated examples involved maintaining safe sequences for devices such as swing bridge controls, where a lock bolt needed to be disengaged before the bridge could be moved, and the lock bolt could not be released until the safety gates had already been closed.

The total number of relays, cam timers and drum sequencers can number into the hundreds or even thousands in some factories. Early programming techniques and languages were needed to make such systems manageable, one of the first being ladder logic, where diagrams of the interconnected relays

resembled the rungs of a ladder. Special computers called programmable logic controllers were later designed to replace these collections of hardware with a single, more easily re-programmed unit.

In a typical hard wired motor start and stop circuit (called a *control circuit*) a motor is started by pushing a "Start" or "Run" button that activates a pair of electrical relays. The "lock-in" relay locks in contacts that keep the control circuit energized when the push button is released. (The start button is a normally open contact and the stop button is normally closed contact.) Another relay energizes a switch that powers the device that throws the motor starter switch (three sets of contacts for three phase industrial power) in the main power circuit. Large motors use high voltage and experience high in-rush current, making speed important in making and breaking contact. This can be dangerous for personnel and property with manual switches. The "lock in" contacts in the start circuit and the main power contacts for the motor are held engaged by their respective electromagnets until a "stop" or "off" button is pressed, which de-energizes the lock in relay.

Commonly interlocks are added to a control circuit. Suppose that the motor in the example is powering machinery that has a critical need for lubrication. In this case an interlock could be added to insure that the oil pump is running before the motor starts. Timers, limit switches and electric eyes are other common elements in control circuits.

Solenoid valves are widely used on compressed air or hydraulic fluid for powering actuators on mechanical components. While motors are used to supply continuous rotary motion, actuators are typically a better choice for intermittently creating a limited range of movement for a mechanical component, such as moving various mechanical arms, opening or closing valves, raising heavy press rolls, applying pressure to presses.

Computer control

Computers can perform both sequential control and feedback control, and typically a single computer will do both in an industrial application. Programmable logic controllers (PLCs) are a type of special purpose microprocessor that replaced many hardware components such as timers and drum sequencers used in relay logic type systems. General purpose process control computers have increasingly replaced stand alone controllers, with a single computer able to perform the operations of hundreds of controllers. Process control computers can process data from a network of PLCs, instruments and controllers in order

to implement typical (such as PID) control of many individual variables or, in some cases, to implement complex control algorithms using multiple inputs and mathematical manipulations. They can also analyze data and create real time graphical displays for operators and run reports for operators, engineers and management.

Control of an automated teller machine (ATM) is an example of an interactive process in which a computer will perform a logic derived response to a user selection based on information retrieved from a networked database. The ATM process has similarities with other online transaction processes. The different logical responses are called *scenarios*. Such processes are typically designed with the aid of use cases and flowcharts, which guide the writing of the software code.

Significant applications

The automatic telephone switchboard was introduced in 1892 along with dial telephones. By 1929, 31.9% of the Bell system was automatic. Automatic telephone switching originally used vacuum tube amplifiers and electro-mechanical switches, which consumed a large amount of electricity. Call volume eventually grew so fast that it was feared the telephone system would consume all electricity production, prompting Bell Labs to begin research on the transistor.

The logic performed by telephone switching relays was the inspiration for the digital computer. The first commercially successful glass bottle blowing machine was an automatic model introduced in 1905. The machine, operated by a two-man crew working 12-hour shifts, could produce 17,280 bottles in 24 hours, compared to 2,880 bottles made by a crew of six men and boys working in a shop for a day. The cost of making bottles by machine was 10 to 12 cents per gross compared to $1.80 per gross by the manual glassblowers and helpers.

Sectional electric drives were developed using control theory. Sectional electric drives are used on different sections of a machine where a precise differential must be maintained between the sections. In steel rolling, the metal elongates as it passes through pairs of rollers, which must run at successively faster speeds. In paper making the paper sheet shrinks as it passes around steam heated drying arranged in groups, which must run at successively slower speeds. The first application of a sectional electric drive was on a paper machine in 1919. One of the most important developments in the steel industry during the 20th century was continuous wide strip rolling, developed by Armco in 1928.

Before automation many chemicals were made in batches. In 1930, with the wide-spread use of instruments and the emerging use of controllers, the founder of Dow Chemical Co. was advocating continuous production.

Self-acting machine tools that displaced hand dexterity so they could be operated by boys and unskilled laborers were developed by James Nasmyth in the 1840s. Machine tools were automated with Numerical control (NC) using punched paper tape in the 1950s. This soon evolved into computerized numerical control (CNC).

Today extensive automation is practiced in practically every type of manufacturing and assembly process. Some of the larger processes include electrical power generation, oil refining, chemicals, steel mills, plastics, cement plants, fertilizer plants, pulp and paper mills, automobile and truck assembly, aircraft production, glass manufacturing, natural gas separation plants, food and beverage processing, canning and bottling and manufacture of various kinds of parts. Robots are especially useful in hazardous applications like automobile spray painting. Robots are also used to assemble electronic circuit boards. Automotive welding is done with robots and automatic welders are used in applications like pipelines.

P. Lavi
3/3/17

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept:IV / MECHT

Date: 02/03/2017

Name of the Programme: Guest Lecture on "Innovative Automation"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept:IV / MECHT Date: 02/03/2017

Name of the Programme: Guest Lecture on "Innovative Automation"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept:III / MECHT Date: 02/03/2017

Name of the Programme: Guest Lecture on "Innovative Automation"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept:III / MECHT Date: 02/03/2017

Name of the Programme: Guest Lecture on "Innovative Automation"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"MICRO ELECTRO MECHANICAL SYSTEMS"

11.07.2017

H.O.D 20/7/17

PRINCIPAL

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

08.07.2017

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 11.07.2017 in your esteemed daily.

Programme	**: MICRO ELECTRO MECHANICAL SYSTEMS**
Date &Time	: 11th July 2017 at 11.00 am to 12.30 pm
Venue	: Smart Class Room, M.A.M. School of Engineering
Resource Person	: Dr.T.Ramesh, Assistant Professor, Department of Mechanical Engineering, NIT Trichy.

Thanking you,

Warm regards.

PRINCIPAL

M.A.M SCHOOL OF ENGINEERING
Siruganur, Trichy

DEPARTMENT OF MECHATRONICS ENGINEERING

GUSET LECTURE
on
"MICRO ELECTRO MECHANICAL SYSTEMS"

RESOURCE PERSON	: Dr.T.RAMESH, A.P, NITT
KEY NOTE ADDRESS	: Dr.P.RANJITHKUMAR Principal, MAMSE, Trichy
SPECIAL ADDRESS	: Mrs. KAVITHA.P HOD, Dept of Mechatronics Engineering
ABOUT PROGRAMME	:Mr Chandra Mohan.M A.P, Dept of Mechatronics Engineering
VENUE	: SEMINAR HALL, MAMSE
DATE	: 11.07.2017
TIME	: 11.30 AM to 01:00 PM

Gmail

Kavitha Vijay <kaviakshya@gmail.com>

uest Lecture

nessage

tha Vijay <kaviakshya@gmail.com>
amesh@nitt.edu
Ranjith Kumar <ranjjith@gmail.com>
ilango rengaraju <ilangorengaraju@gmail.com>

Sat, Jul 8, 2017 at 4:20 PM

spected Sir,

This is.P.Kavitha/Department of Mechatronics Engineering, M.A.M.School of Engineering. I feel honoured d previleged to invite you to our college to give a guest lecture on "MICRO ELECTRO MECHANICAL STEMS" on 11th July, 2017. It would be helpful for our students , if you would accept this invitation and spend ur valuable time with us on 11th July, 2017 from 11.30 A.M to 1.00 P.M.

Thanking you in anticipation and looking forward for your positive response.

ith warm regards,

avitha,
O.D / Dept of Mechatronics Enginnering,
A.M.S.E

Gmail

Kavitha Vijay <kaviakshya@gmail.com>

Guest Lecture

T. RAMESH <tramesh@nitt.edu>
Kavitha Vijay <kaviakshya@gmail.com>

Mon, Jul 10, 2017 at 6:22 AM

madam,
nk you very much four your invitation. I do accept your invitation and will be there at MAM on 11th July at 11

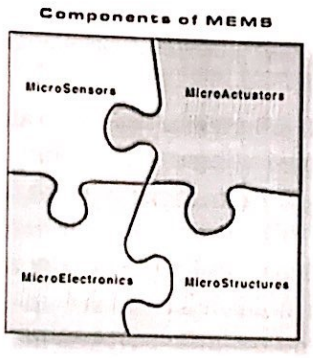
nk you
ed text hidden]

. RAMESH,
stant Professor,
partment of Mechanical Engineering,
tional Institute of Technology,
hirappalli - 620 015
lnadu, India
le: 09994339803

MICRO-ELECTRO-MECHANICAL SYSTEMS

Micro-Electro-Mechanical Systems, or MEMS, is a technology that in its most general form can be defined as miniaturized mechanical and electro-mechanical elements (i.e., devices and structures) that are made using the techniques of microfabrication. The critical physical dimensions of MEMS devices can vary from well below one micron on the lower end of the dimensional spectrum, all the way to several millimeters. Likewise, the types of MEMS devices can vary from relatively simple structures having no moving elements, to extremely complex electromechanical systems with multiple moving elements under the control of integrated microelectronics. The one main criterion of MEMS is that there are at least some elements having some sort of mechanical functionality whether or not these elements can move. The term used to define MEMS varies in different parts of the world. In the United States they are predominantly called MEMS, while in some other parts of the world they are called "Microsystems Technology" or "micromachined devices".

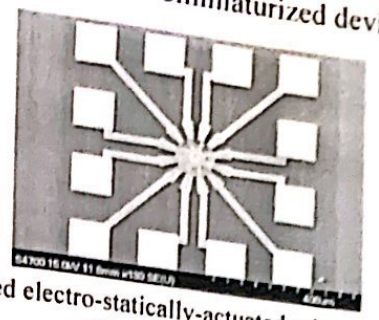
While the functional elements of MEMS are miniaturized structures, sensors, actuators, and microelectronics, the most notable (and perhaps most interesting) elements are the microsensors and microactuators. Microsensors and microactuators are appropriately categorized as "transducers", which are defined as devices that convert energy from one form to another. In the case of microsensors, the device typically converts a measured mechanical signal into an electrical signal.



Over the past several decades MEMS researchers and developers have demonstrated an extremely large number of microsensors for almost every possible sensing modality including temperature, pressure, inertial forces, chemical species, magnetic fields, radiation, etc. Remarkably, many of these micromachined sensors have demonstrated performances exceeding those of their macroscale counterparts. That is, the micromachined version of, for example, a pressure transducer, usually outperforms a pressure sensor made using the most precise macroscale level machining techniques. Not only is the performance of MEMS devices exceptional, but their method of production leverages the same batch fabrication techniques used in the integrated circuit industry – which can translate into low per-device production costs, as well as many other benefits. Consequently, it is possible to not only achieve stellar device performance, but to do so at a relatively low cost level. Not surprisingly, silicon based discrete microsensors were quickly commercially exploited and the markets for these devices continue to grow at a rapid rate.

More recently, the MEMS research and development community has demonstrated a number of microactuators including: microvalves for control of gas and liquid flows; optical switches and mirrors to redirect or modulate light beams; independently controlled micromirror arrays for displays, microresonators for a number of different applications, micropumps to develop positive fluid pressures, microflaps to modulate airstreams on airfoils,

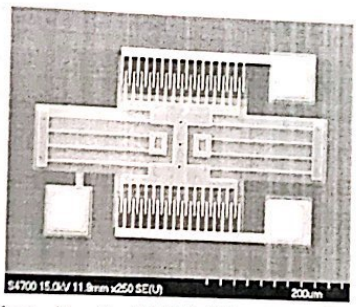
as well as many others. Surprisingly, even though these microactuators are extremely small, they frequently can cause effects at the macroscale level; that is, these tiny actuators can perform mechanical feats far larger than their size would imply. For example, researchers have placed small microactuators on the leading edge of airfoils of an aircraft and have been able to steer the aircraft using only these microminiaturized devices.



A surface micromachined electro-statically-actuated micromotor fabricated by the MNX. This device is an example of a MEMS-based microactuator.

The real potential of MEMS starts to become fulfilled when these miniaturized sensors, actuators, and structures can all be merged onto a common silicon substrate along with integrated circuits (i.e., microelectronics). While the electronics are fabricated using integrated circuit (IC) process sequences (e.g., CMOS, Bipolar, or BICMOS processes), the micromechanical components are fabricated using compatible "micromachining" processes that selectively etch away parts of the silicon wafer or add new structural layers to form the mechanical and electromechanical devices. It is even more interesting if MEMS can be merged not only with microelectronics, but with other technologies such as photonics, nanotechnology, etc. This is sometimes called "heterogeneous integration." Clearly, these technologies are filled with numerous commercial market opportunities.

While more complex levels of integration are the future trend of MEMS technology, the present state-of-the-art is more modest and usually involves a single discrete microsensor, a single discrete microactuator, a single microsensor integrated with electronics, a multiplicity of essentially identical microsensors integrated with electronics, a single microactuator integrated with electronics, or a multiplicity of essentially identical microactuators integrated with electronics. Nevertheless, as MEMS fabrication methods advance, the promise is an enormous design freedom wherein any type of microsensor and any type of microactuator can be merged with microelectronics as well as photonics, nanotechnology, etc., onto a single substrate.

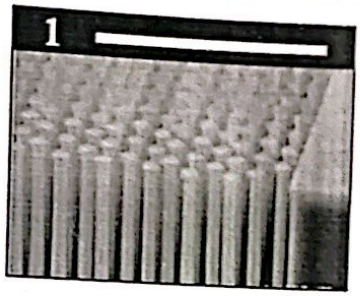


A surface micromachined resonator fabricated by the MNX. This device can be used as both a microsensor as well as a microactuator.

This vision of MEMS whereby microsensors, microactuators and microelectronics and other technologies, can be integrated onto a single microchip is expected to be one of the most important technological breakthroughs of the future. This will enable the development of smart products by augmenting the computational ability of microelectronics with the perception and control capabilities of microsensors and microactuators. Microelectronic integrated circuits can be thought of as the "brains" of a system and MEMS augments this decision-making capability with "eyes" and "arms", to allow microsystems to sense and

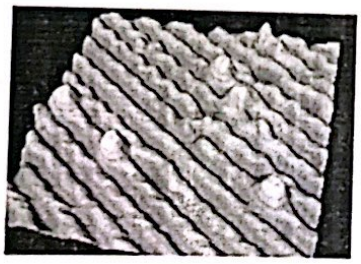
control the environment. Sensors gather information from the environment through measuring mechanical, thermal, biological, chemical, optical, and magnetic phenomena. The electronics then process the information derived from the sensors and through some decision making capability direct the actuators to respond by moving, positioning, regulating, pumping, and filtering, thereby controlling the environment for some desired outcome or purpose. Furthermore, because MEMS devices are manufactured using batch fabrication techniques, similar to ICs, unprecedented levels of functionality, reliability, and sophistication can be placed on a small silicon chip at a relatively low cost. MEMS technology is extremely diverse and fertile, both in its expected application areas, as well as in how the devices are designed and manufactured. Already, MEMS is revolutionizing many product categories by enabling complete systems-on-a-chip to be realized.

Nanotechnology is the ability to manipulate matter at the atomic or molecular level to make something useful at the nano-dimensional scale. Basically, there are two approaches in implementation: the top-down and the bottom-up. In the top-down approach, devices and structures are made using many of the same techniques as used in MEMS except they are made smaller in size, usually by employing more advanced photolithography and etching methods. The bottom-up approach typically involves deposition, growing, or self-assembly technologies. The advantages of nano-dimensional devices over MEMS involve benefits mostly derived from the scaling laws, which can also present some challenges as well.



An array of sub-micron posts made using top-down nanotechnology fabrication methods.

Some experts believe that nanotechnology promises to: a). allow us to put essentially every atom or molecule in the place and position desired – that is, exact positional control for assembly, b). allow us to make almost any structure or material consistent with the laws of physics that can be specified at the atomic or molecular level; and c). allow us to have manufacturing costs not greatly exceeding the cost of the required raw materials and energy used in fabrication (i.e., massive parallelism).



A colorized image of a scanning-tunneling microscope image of a surface, which is a common imaging technique used in nanotechnology.

Although MEMS and Nanotechnology are sometimes cited as separate and distinct technologies, in reality the distinction between the two is not so clear-cut. In fact, these two technologies are highly dependent on one another. The well-known scanning tunneling-tip microscope (STM) which is used to detect individual atoms and molecules on the nanometer scale is a MEMS device. Similarly the atomic force microscope (AFM) which is used to manipulate the placement and position of individual atoms and molecules on the surface of a

substrate is a MEMS device as well. In fact, a variety of MEMS technologies are required in order to interface with the nano-scale domain.

Likewise, many MEMS technologies are becoming dependent on nanotechnologies for successful new products. For example, the crash airbag accelerometers that are manufactured using MEMS technology can have their long-term reliability degraded due to dynamic in-use stiction effects between the proof mass and the substrate. A nanotechnology called Self-Assembled Monolayers (SAM) coatings are now routinely used to treat the surfaces of the moving MEMS elements so as to prevent stiction effects from occurring over the product's life.

Many experts have concluded that MEMS and nanotechnology are two different labels for what is essentially a technology encompassing highly miniaturized things that cannot be seen with the human eye. Note that a similar broad definition exists in the integrated circuits domain which is frequently referred to as microelectronics technology even though state-of-the-art IC technologies typically have devices with dimensions of tens of nanometers. Whether or not MEMS and nanotechnology are one in the same, it is unquestioned that there are overwhelming mutual dependencies between these two technologies that will only increase in time. Perhaps what is most important are the common benefits afforded by these technologies, including: increased information capabilities; miniaturization of systems; new materials resulting from new science at miniature dimensional scales; and increased functionality and autonomy for systems.

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Guest Lecture

TITLE: Micro Electro Mechanical Systems

DATE and TIME: 11.07.17, 11.30 am to 01.00 pm

VENUE: Seminar Hall

RESOURCE PERSON: Dr T.Ramesh

DESIGNATION: Assistant Professor, Mechanical Department, NITT

ORGANIZED BY: G.Saranya, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED:

SUMMARY:

The Program commenced at 11:30 AM at the seminar hall. Dr T.Ramesh gave a brief introduction about Micro Electro Mechanical Systems. Video demonstrations about Micro Electro Mechanical Systems were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 01:00PM with a vote of thanks from Leo, IV Year Mechatronics.

27/07/17

K.A.S. SCHOOL OF ENGINEERING

(An ISO 9001:2015 Certified Institution)

Siruganur, Tiruchirappalli – 621 105

Year / Dept: IV / Mechatronics Date: 11/07/2017

Name of the Programme: Seminar On "MICRO ELECTO MECHANICAL SYSTEMS"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M. SCHOOL OF ENGINEERING

(An Autonomous Institution)

Siruganur, Tiruchirappalli – 621 105

Year / Dept: III / Mechatronics Date: 11/07/2017

Name of the Programme: Seminar On "MICRO ELECTO MECHANICAL SYSTEMS"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

DEPARTMENT OF MECHATRONICS ENGINEERING

ASSOCIATION INAUGURATION

20.07.2017

H.O.D 24/7/17

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING
SIRUGANUR, TRICHY-621105

ASSOCIATION INAUGURATION

(AERO, MECH, MECHATRONICS)

AGENDA

- ✓ **Qirath** – Abdul Latheef (IV MECH)
- ✓ **Tamilthai Valthu**
- ✓ **Welcome Address** – Sruti menon (IV MECHT)
- ✓ **Introduction to Office Bearers**
- ✓ **Honoring the Chief Guest**
- ✓ **Introduction to Chief Guest** – S.Ajith (IV MECH)
- ✓ **Special Address**
- ✓ **Vote of Thanks** – M.Deepika (IV AERO)
- ✓ **National Anthem**

M.A.M SCHOOL OF ENGINERING
SIRUGANUR, TRICHY-621105

(ISO 9001:2008 &NACC –Accredited)

HOD, Faculty and Students of Department of Aeronautical Mechanical and Mechatronics Engineering.

CORDIALLY INVITES YOU FOR

INAUGURATION OF STUDENT TECHNICAL ASSOCIATION

On 20 th July 2017

at Seminar Hall

Dr.M.A.Muthu Manickam

Scientist – F

CVRDE,Chennai.

Er.M.A,Peer Mohamed,B.E.,M.B.A.,

Correspondent, M.A.M.S.E

Presides

Dr.P.Ranjith Kumar,M.E.,Ph.D.,

Principal, M.A.M.S.E

Felicitates

Prof. B.Chandra Mohan	Prof.R.Ramanathan	Prof.P.Kavitha
HOD/Aeronautical	HOD/Mechanical	HOD/Mechatronics

M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

ACADEMIC YEAR 2017-2018(ODD SEM)

ASSOCIATION INAUGURATION

OFFICE BEARERS

PRESIDENT	SREEHARI.M
VICE PRESIDENT	RAJU. R
SECRETARY	MUTHUKUMAR.N
JOINT SECRETARY	RAMANATHAN. A
TREASURER	MUTHU PRAKASH.M
OFFICE BEARERS	VIGNESH.R
	INDHUMATHI. K SANGHA-S
	SANKAR.B
	VAITHEESWARI.V

HOD 20/7/17

PRINCIPAL

M.A.M.SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY – 621105

DEPARTMENT OF MECHATRONICS ENGINEERING

ASSOCIATION INAUGURATION 2017-2018(ODD SEM)

BUDGET DETAILS

DATE: 20.7.2017

SNO	PARTICULARS	AMOUNT
1.	Snacks Committee	3.750/-
2.	Printing of Poster, Invitation, Banners, Sign Boards, Certificate	6,700/-
3.	Chief Guest momento	7,000/-
4.	Transport Charges for Chief Guest	2,500/-
6.	Reception Committee	500/-
7.	PRO – Press & Publicity	2,000/-
	Total	**22,450/-**

21/4/17.

H.O.D

M.A.M.SCHOOL OF ENGINEERING
SIRUGANUR,TRCIHY – 621105
DEPARTMENT OF MECHATRONICS ENGINEERING

ASSOCIATION INAUGURATION 2017-2018(ODD SEM)
COMMITTEE DETAILS

SNO	COMMITTEE	STAFF IN CHARGE	STUDENT INCHARGE
1.	Invitation	A.Arivazhagan	Vijaya kumar.K
2.	Flex and Banner	M.Chandra Mohan	Vignesh.R Raju.R
3.	Decoration	G.Saranya	Sansha.S Vaitheeshwari.V
4.	MC desk	G.Saranya	Daisy Pricilla.M Sruti menon
5.	Reception	K.Priya	Gowsalya.K Manisha.M
6.	Seating arrangement	P.Sabthagiri Rajan	Gowtham manikandan.S
7.	Publication	M.Chandra Mohan	Muthu prakash.M
8.	Snacks	A.Arivazhagan	Ramanathan.A
9.	Chief Guest hospitality	G.Saranya	Shankar.P
10.	Power supply	A.Nalla thambi	Dilon antony
11.	Purchase	P.Sabthagiri Rajan	Nithyanantham.M

H.O.D 21/4/17

Dr.M.A. MUTHU MANICKAM
Jt.DIRECTOR at CVRDE, DRDO,MINISTRY OF DEFENCE, INDIA
Chennai Area, India

Defense & Space

Current **CVRDE, DRDO,MINISTRY OF DEFENCE, INDIA**

Education **College of Engineering, Guindy**

College of Engineering, Guindy
Doctor of Philosophy (Ph.D.), Composite Armour Materials
1996 – 2001

College of Engineering, Guindy
Master's degree in Materials Science, Materials Science
1983 – 1986

Thiagarajar College of Engineering
Bachelor's degree in Applied Sciences, Applied Sciences
1981 – 1984

VIVEKAKANDA HIGHER SECONDARY SCHOOL, THIRUVEDAKAM
+2
1979 – 1980

M M HIGHER SECONDARY SCHOOL, THIRUPPARANKUNDRAM
10TH
1976 – 1980

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Inauguration

TITLE: COMPUTERIZED VEHICLE IN DEFENCE

DATE and TIME: 20.07.17, 2.00 pm to 04.00 pm

VENUE: Seminar Hall

RESOURCE PERSON: Dr M.A MUTHU MANICKAM

DESIGNATION: Jt. director

ORGANIZED BY: G.Saranya, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED: 67

SUMMARY:

The Program commenced at 2.00 PM at the seminar hall. Dr M.A MUTHU MANICKAM gave a brief introduction about COMPUTERIZED VEHICLE IN DEFENCE. Video demonstrations about computerized vehicle in defense were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 04:00PM with a vote of thanks from Sruti menon, IV Year Mechatronics.

24/7/17.

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"INDUSTRIAL AUTOMATION"

22.07.2017

H.O.D 05/7/17

PRINCIPAL

20.07.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 22.07.2017 in your esteemed daily.

Programme	:	**INDUSTRIAL AUTOMATION USING PLC**
Date &Time	:	22nd July 2017 at 11.30 am to 12.30 pm
Venue	:	Smart Class Room, M.A.M. School of Engineering
Resource Person	:	Mr. Jijo christo, Senior application engineer, Axis Global automation.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M SCHOOL OF ENGINEERING
Siruganur, Trichy

DEPARTMENT OF MECHATRONICS ENGINEERING

GUSET LECTURE
on
"INDUSTRIAL AUTOMATION"

RESOURCE PERSON : MR. JIJO CHRISTO,
Senior application engineer,
Axis Global automation

KEY NOTE ADDRESS : Dr.P.RANJITHKUMAR
Principal, MAMSE, Trichy

SPECIAL ADDRESS : Mrs. KAVITHA.P
HOD, Dept of Mechatronics Engineering

ABOUT PROGRAMME :Ms.G.SARANYA
A.P, Dept of Mechatronics Engineering

VENUE : SEMINAR HALL,
MAMSE

DATE : 22.07.2017

TIME : 11.30 AM to 01:00 PM

Gmail

ARIVAZHAGAN ARUNACHALAM <aridcse@gmail.com>

Guest lecture-regards

ARIVAZHAGAN ARUNACHALAM <aridcse@gmail.com> Wed, Jul 19, 2017 at 3:41 PM
To: kumar@agatrg.com, jijo@agatrg.com

Dear sir/madam,

Our students are very much interested in learning about industrial automation. we have the great pleasure of inviting you for a guest lecture on industrial automation using PLC and SCADA on 22.7.17 at 11.30 A.m.Awaiting for your positive reply.

–

Thanks & Regards,
A. Arivazhagan,
assistant professor,
department of mechatronics engineering,
M.A.M School of Engineering,
siruganur, Trichy.

Gmail

ARIVAZHAGAN ARUNACHALAM <aridcse@gmail.com>

Guest lecture-regards

Wed, Jul 19, 2017 at 7:07 PM

Jijo Christo <jijo@agatrg.com>
To: ARIVAZHAGAN ARUNACHALAM <aridcse@gmail.com>
Cc: Kumar N <kumar@agatrg.com>

Dear Sir / Madam,

We confirm **Industrial Guest lecture** On **"Recent Trends in Industrial Automation - RETINA - 17" on 22nd July, 2017 - Morning Session.** 11.30 A.M . Kindly confirm us with the Venue, Location for the Event.

(Most Preferably for Pre- Final Year Graduates.)

Requirements :

Video - Projector
Audio System
[Quoted text hidden]

Industrial automation

Industrial automation deals primarily with the automation of manufacturing, quality control and material handling processes. General purpose controllers for industrial processes include Programmable logic controllers, stand-alone I/O modules, and computers. Industrial automation is to replace the decision making of humans and manual command-response activities with the use of mechanized equipment and logical programming commands. One trend is increased use of Machine vision to provide automatic inspection and robot guidance functions, another is a continuing increase in the use of robots. Industrial automation is simply done at the industrial level.

Energy efficiency in industrial processes has become a higher priority. Semiconductor companies like Infineon Technologies are offering 8-bit micro-controller applications for example found in motor controls, general purpose pumps, fans, and ebikes to reduce energy consumption and thus increase efficiency.

Advantages

- Replaces hard physical or monotonous work
- Tasks in hazardous environments, such as extreme temperatures, or atmospheres that are radioactive or toxic can be done by machines
- Faster production and cheaper labor costs
- Automation can be maintained with simple quality checks.
- Can perform tasks beyond human capabilities.

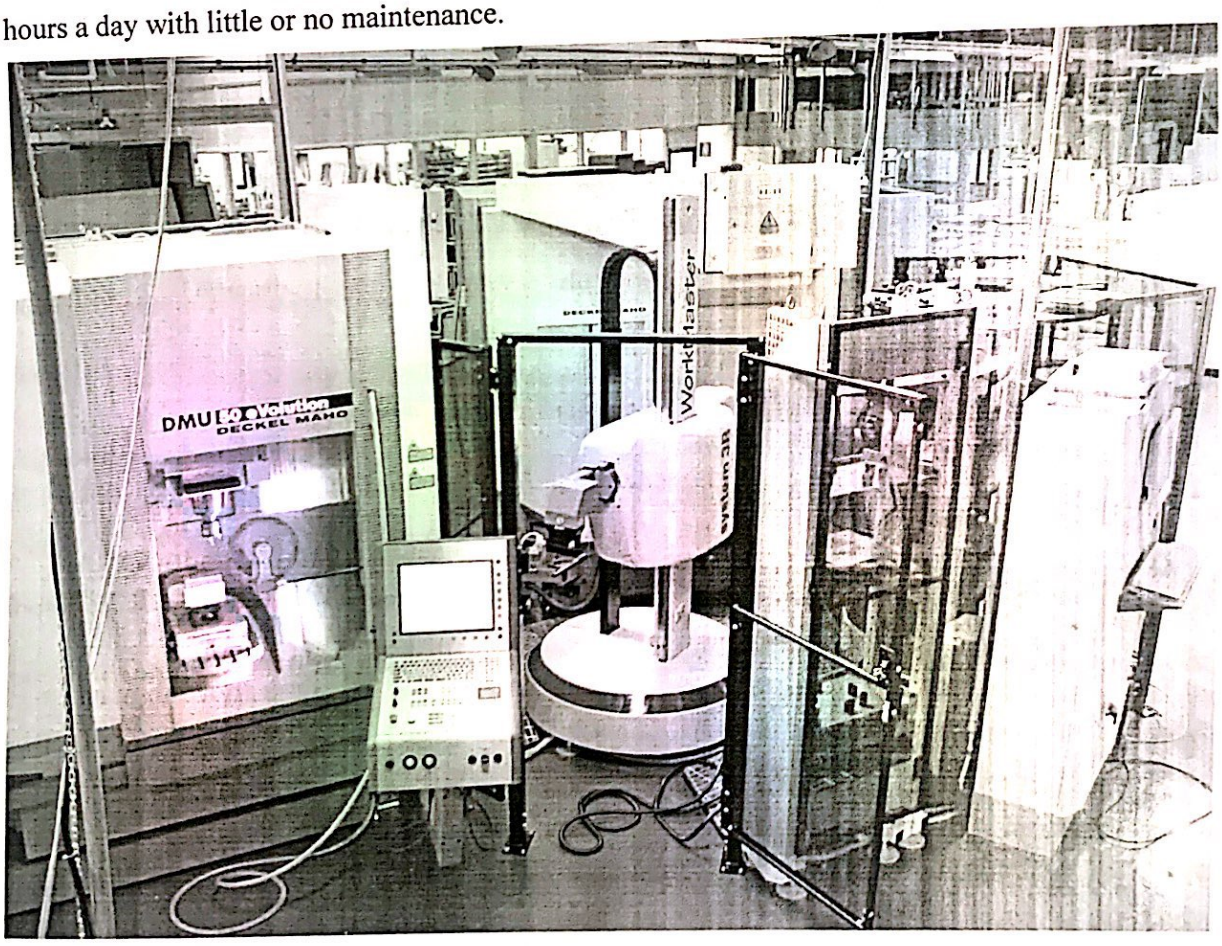
Disadvantages

As of now, not all tasks can be automated

- Some tasks are more expensive to automate
- Initial costs are high
- Failure to maintain a system could result in the loss of the product

Industrial Robotics

Industrial robotics is a sub-branch in the industrial automation that aids in various manufacturing processes. Such manufacturing processes include; machining, welding, painting, assembling and material handling to name a few. Industrial robots utilizes various mechanical, electrical as well as software systems to allow for high precision, accuracy and speed that far exceeds any human performance. The birth of industrial robot came shortly after World War II as United States saw the need for a quicker way to produce industrial and consumer goods.[52] Servos, digital logic and solid state electronics allowed engineers to build better and faster systems and overtime these systems were improved and revised to the point where a single robot is capable of running 24 hours a day with little or no maintenance.



Programmable Logic Controllers

Industrial automation incorporates programmable logic controllers in the manufacturing process. Programmable logic controllers (PLCs) use a processing system which allows for variation of controls of inputs and outputs using simple programming. PLCs make use of programmable memory, storing instructions and functions like logic, sequencing, timing, counting, etc. Using a logic based language, a PLC can receive a variety of inputs and return a variety of logical outputs, the input devices being sensors and output devices being motors, valves, etc. PLCs are similar to computers, however, while computers are optimized for calculations, PLCs are optimized for control task and use in industrial environments. They are built so that only basic logic-based programming knowledge is needed and to handle vibrations, high temperatures, humidity and noise. The greatest advantage PLCs offer is their flexibility. With the same basic controllers, a PLC can operate a range of different control systems. PLCs make it unnecessary to rewire a system to change the control system. This flexibility leads to a cost-effective system for complex and varied control systems.[53]

Agent-assisted automation

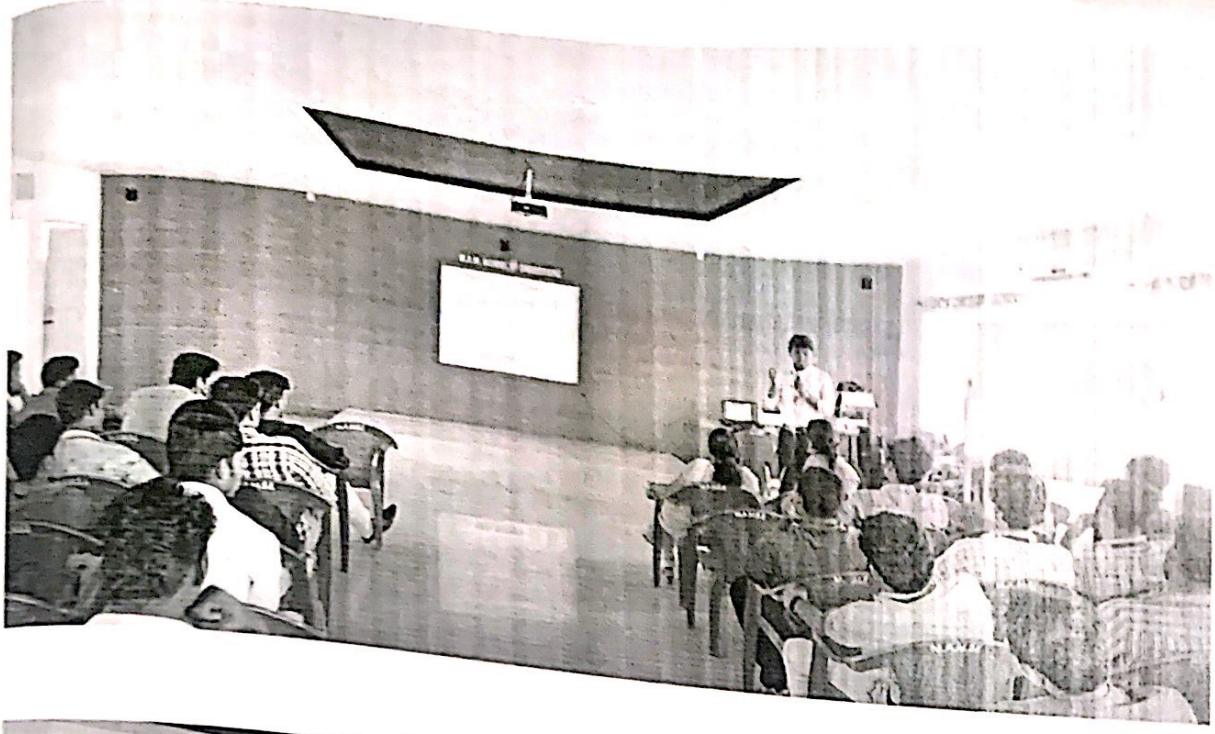
Agent-assisted automation refers to automation used by call center agents to handle customer inquiries. There are two basic types: desktop automation and automated voice solutions. Desktop automation refers to software programming that makes it easier for the call center agent to work across multiple desktop tools. The automation would take the information entered into one tool and populate it across the others so it did not have to be entered more than once, for example. Automated voice solutions allow the agents to remain on the line while disclosures and other important information is provided to customers in the form of pre-recorded audio files. Specialized applications of these automated voice solutions enable the agents to process credit cards without ever seeing or hearing the credit card numbers or CVV code

The key benefit of agent-assisted automation is compliance and error-proofing. Agents are sometimes not fully trained or they forget or ignore key steps in the process. The use of automation ensures that what is supposed to happen on the call actually does, every time.

Relation to unemployment

Research by the Oxford Martin School showed that employees engaged in "tasks following well-defined procedures that can easily be performed by sophisticated algorithms" are at risk of displacement. Automation can affect both skilled and unskilled work and both high and low-paying occupations; however, low-paid physical occupations are most at risk. However, according to a study published in McKinsey Quarterly in 2015 the impact of computerization in most cases is not replacement of employees but automation of portions of the tasks they perform.

Based on a formula by Gilles Saint-Paul, an economist at Toulouse 1 University, the demand for unskilled human capital declines at a slower rate than the demand for skilled human capital increases. In the long run and for society as a whole it has led to cheaper products, lower average work hours, and new industries forming (i.e., robotics industries, computer industries, design industries). These new industries provide many high salary skill based jobs to the economy.



M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR- TIRUCHIRAPPALLI – 621 105

DEPARTMENT OF MECHATRONICS ENGINEERING

Report of Guest Lecture

TITLE: Industrial Automation

DATE and TIME: 22.07.17, 11.30 am to 01.00 pm

VENUE: Smart Class Room

RESOURCE PERSON: Mr. Jijo christo,

DESIGNATION: Senior application engineer, Axis Global automation

ORGANIZED BY: G.Saranya, Assistant Professor/MECHT

NO. OF STUDENTS ATTENDED:50

SUMMARY:

The Program commenced at 11:30 AM at the Smart Class Room. Mr. Jijo christo gave a brief introduction about Industrial Automation. Video demonstrations about Industrial Automation were presented to the students for better understanding. The Students found the seminar to be interesting and interacted with resource person frequently and asked their doubts. The seminar was winded up by 01:00PM with a vote of thanks from Sruti menon, IV Year Mechatronics.

25/7/17

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept: /MECHT Date: 22/7/2017

Name of the Programme: Seminar On "INDUSTRIAL AUTOMATION"

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long
2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful
3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor
4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor
5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it
6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No
7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"ROBOTICS PROCESS AUTOMATION (RPA)"

29.07.2017

H.O.D 24/8/17

PRINCIPAL

27.07.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 29.07.2017 in your esteemed daily.

Programme	:	**ROBOTICS PROCESS AUTOMATION (RPA)**
Date &Time	:	29th July 2017 at 11.30 am to 01.00 pm
Venue	:	Smart Class Room, M.A.M. School of Engineering
Resource Person	:	Mr.Manoharan, Green soft technologies, Trichy.

Thanking you.

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"ROBOTICS PROCESS AUTOMATION"

RESOURCE PERSON	**: Mr.,Manoharan, Project manager, Greensoft Technologies, Trichy**
KEY NOTE ADDRESS	**:Ms P.Kavitha, Head Of the Department, Department of Mechatronics Engineering, MAMSE, Trichy**
SPECIAL ADDRESS	**:Mr M.Chandra Mohan, Assistant Professor / MECHT, Department of Mechatronics Engineering**
ABOUT PROGRAMME	**:Mr P.Sabthagiri Rajan, Assistant Professor / MECHT, Department of Mechatronics Engineering**
VENUE	**: Smart Class, MAMSE, Trichy**
DATE	**:29.07.2017**
TIME	**:11.30 AM to 1.00 PM**

RPA vs. TRADITIONAL AUTOMATION

Software robots interpret the user interface of third party applications and are configured to execute steps identically to a human user. They are configured (or "trained") using demonstrative steps, rather than being programmed using code-based instructions. This is an important concept in the RPA market because the intention is not to provide another "coding" platform for IT users (who already have the benefit of mature and tested software development and middleware platforms). Rather, the intention is to provide an agile and configurable capability to non-technical "business" users in operational departments. The paradigm, in summary, is that a software robot should be a virtual worker who can be rapidly "trained" (or configured) by a business user in an intuitive manner which is akin to how an operational user would train a human colleague.

The benefit of this approach is twofold. Firstly it enables operations departments to self serve. Secondly, it frees up the limited and valuable skills of IT professionals to concentrate on more strategic IT implementations such as ERP and BPMS rollouts. Such programs are often upheld as being transformational in nature, delivering huge returns in the medium to long term, whereas RPA is typically focused on immediate operational effectiveness, quality and cost efficiency. RPA is classically seen therefore as complementary to existing automation initiatives.

CHARACTERISTICS OF RPA SOFTWARE

Code-Free

RPA does not require programming skills: Business operations employees - people with process and subject matter expertise but no programming experience - can be trained to independently automate processes using RPA tools within a few weeks.

Many RPA platforms present a flowchart designer, much like Microsoft Visio: process definitions are created graphically by dragging, dropping and linking icons that represent steps in a process.

Non-disruptive

One of the challenges of traditional IT deployments is that the transformation or change of existing systems is complex and risky. Thus, many large organizations are reluctant to redesign, replace or even to enhance existing systems through the creation of new IT interfaces (or APIs). For this reason, the philosophy behind RPA is to avoid the complexity and risk of such changes where they are not warranted, (or indeed to enable such changes to be prototyped and tested, simply by simulating equivalent input/output via the user interface in lieu of APIs).

RPA tools therefore lean towards "light" IT requirements and do not, for example, disturb underlying computer systems. The robots access end user computer systems exactly as a human does - via the user interface with an established access control mechanism (e.g. logon ID and password) - so no underlying systems programming need be required. This is an important point because, from a security, quality and data integrity perspective, the UI of many applications encapsulates many years of requirements and testing for error prevention, data integrity and security access control. To bypass a UI by creating a new API is a risky undertaking and requires extensive testing in order that the same levels of functionality and protection are maintained.

Business user friendly

RPA's ease of use and low requirement for technical support perhaps explains why adoption typically originates inside business operations and not inside Information Technology (IT) departments. Because RPA projects do not require expensive IT skills and investment in new platforms, the economic threshold of processes with a viable business case for automation is substantially lowered.

RPA software vendors

Notable RPA software vendors include:

Automation Anywhere

- Black Line
- Blue Prism
- Datamatics
- Edge Verve
- Help Systems
- Kofax
- NICE
- Open span (acquired by Peg systems)
- Verint

IMPACT OF RPA ON EMPLOYMENT

According to Harvard Business Review, most operations groups adopting RPA have promised their employees that automation would not result in layoffs. Instead, workers have been redeployed to do more interesting work. One academic study highlighted that knowledge workers did not feel threatened by automation: they embraced it and viewed the robots as team-mates. The same study highlighted that, rather than resulting in a lower "headcount", the technology was deployed in such a way as to achieve more work and greater productivity with the same number of people.

Conversely however, some analysts proffer that RPA represents a threat to the Business Process Outsourcing (BPO) industry. The thesis behind this notion is that RPA will enable enterprises to "repatriate" processes from offshore locations into local data centers, with the benefit of this new technology. The effect, if true, will be to create high value jobs for skilled process designers in onshore locations (and within the associated supply chain of IT hardware, data center management, etc.) but to decrease the available opportunity to low skilled workers offshore. On the other hand, this discussion appears to be healthy ground for debate as another academic study was at pains to counter the so-called "myth" that RPA will bring back many jobs from offshore.

THE FUTURE OF RPA

The future of RPA is subject to much speculation, as the early majority adopt the technology and discover new uses and new synergies. Possible future trends may include:

- A convergence of BPM and RPA tools, much in the way that the distinction between BPM and workflow tools is now blurred. The acquisition of Open Span in 2016 by Pega systems is perhaps just one early indication of such a convergence.
- Greater incorporation of artificial intelligence (AI) for advanced decision making and inferencing. Some analysts speculate about such developments but, as yet, it is not easy to identify verifiable public domain case studies which provide evidence of this type of technology being deployed alongside RPA.

Impact on Society

Academic studies project that RPA, among other technological trends, is expected to drive a new wave of productivity and efficiency gains in the global labour market. Although not directly attributable to RPA alone, Oxford University conjectures that up to 35% of all jobs may have been automated by 2035.

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "Robotics Process Automation", on 29th August at Smart class. The guest speaker was Mr.Manoharan, Project Manager, Greensoft Technologies, Trichy. The event started with a welcome address delivered by the Head of the Department Ms.P.Kavitha. In his talk, he explained the importance of the projects in their career. The lecture started around 11.30 A.M and ended around 1.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

29/8/17

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

ar / Dept: IV / MECHT
Date: 29/07/2017

me of the Programme: Workshop on "ROBOTICS PROCESS
TOMATION"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   B- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   B- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   B- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   B- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   B- Yes B-Some extent C- No
7. **Planning of this Programme?**
   B- Excellent B-Very Good C- Good D- Satisfactory E-Poor
8. Any other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Year / Dept: II /MECHT
Date: 29/07/2017

Name of the Programme: Guest Lecture on "ROBOTICS PROCESS AUTOMATION"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor
8. Any other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

WORKSHOP

On

"INTERNET OF THINGS USING RASPBERRY PI"

09.08.2017

H.O.D 24/8/17

PRINCIPAL

08.08.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 09.08.2017 in your esteemed daily.

Programme	**: INTERNET OF THINGS USINNG RASPBERRY PI**
Date &Time	: 09th August 2017 at 09.00 am to 04.30 pm
Venue	:Peter Nortan Lab , M.A.M. School of Engineering
Resource Person	: Mr.AAVUDAIYAPPAN, Project Engineer, Pantech solutions

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

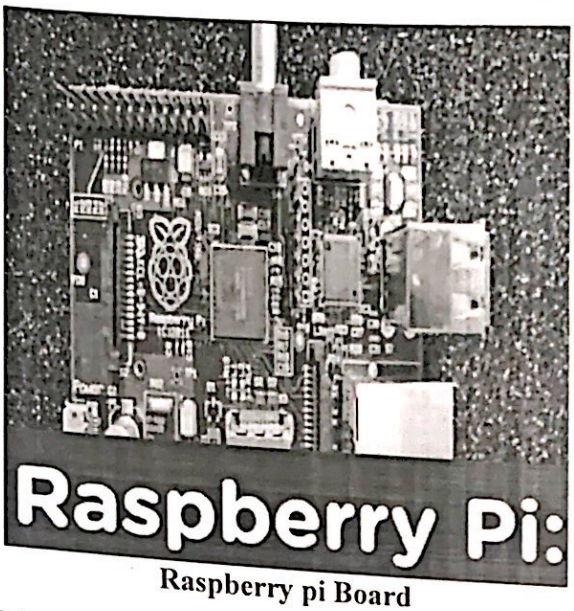
ONE DAY WORKSHOP

on

"INTERNET OF THINGS USING RASPBERRY PI"

RESOURCE PERSON	**: Mr.AAVUDAIYAPPAN, Project manager, PANTECH Solutions**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Mrs.KAVITHA.P Head Of the Department, Department of Mechatronics Engineering**
ABOUT PROGRAMME	**:Ms.G.SARANYA Assistant Professor, Department of Mechatronics Engineering**
VENUE	**: PETER NORTAN LAB, MAMSE**
DATE	**:09.08.2017**
TIME	**:09.00 AM to 04.30 PM**

Raspberry Pi Board Technology



Raspberry pi Board

The Raspberry pi is a single computer board with credit card size that can be used for many tasks that your computer does, like games, word processing, spreadsheets and also to play HD video. It was established by the Raspberry pi foundation from the UK. It has been ready for public consumption since 2012 with the idea of making a low-cost educational microcomputer for students and children. The main purpose of designing the raspberry pi board is, to encourage learning, experimentation and innovation for school level students. The raspberry pi board is a portable and low cost. Maximum of the raspberry pi computers is used in mobile phones. In the 2st century, the growth of mobile computing technologies is very high, a huge segment of this being driven by the mobile industries. The 98% of the mobile phones were using ARM technology.

Raspberry Pi Technology

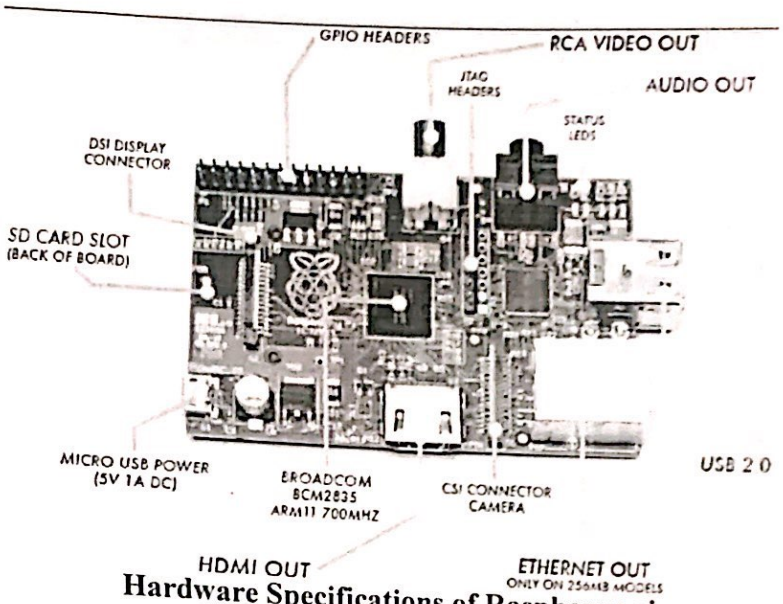
The raspberry pi comes in two models; they are model A and model B. The main difference between model A and model B is USB port. Model A board will consume less power and that does not include an Ethernet port. But, the model B board includes an Ethernet port and designed in china. The raspberry pi comes with a set of open source technologies, i.e. communication and multimedia web technologies. In the year 2014, the foundation of the raspberry pi board launched the computer module that packages a model B raspberry pi board into module for use as a part of embedded systems, to encourage their use.

Raspberry Pi Hardware Specifications

The raspberry pi board comprises a program memory (RAM), processor and graphics chip, CPU, GPU, Ethernet port, GPIO pins, X Bee socket, UART, power source connector. And various interfaces for other external devices. It also requires mass storage, for that we use an SD flash memory card. So that raspberry pi board will boot from this SD card similarly as a PC boots up into windows from its hard disk.

Essential hardware specifications of raspberry pi board mainly include SD card containing Linux OS, US keyboard, monitor, power supply and video cable. Optional hardware

specifications include USB mouse, powered USB hub, case, internet connection. the Model A or B: USB WiFi adaptor is used and internet connection to Model B is LAN cable.



Hardware Specifications of Raspberry pi

Memory

The raspberry pi model A board is designed with 256MB of SDRAM and model B is designed with 51MB.Raspberry pi is a small size PC compare with other PCs. The normal PC's RAM memory is available in gigabytes. But in raspberry pi board, the RAM memory is available more than 256MB or 512MB

CPU (Central Processing Unit)

The Central processing unit is the brain of the raspberry pi board and that is responsible for carrying out the instructions of the computer through logical and mathematical operations. The raspberry pi uses ARM11 series processor, which has joined the ranks of the Samsung galaxy phone.

GPU (Graphics Processing Unit)

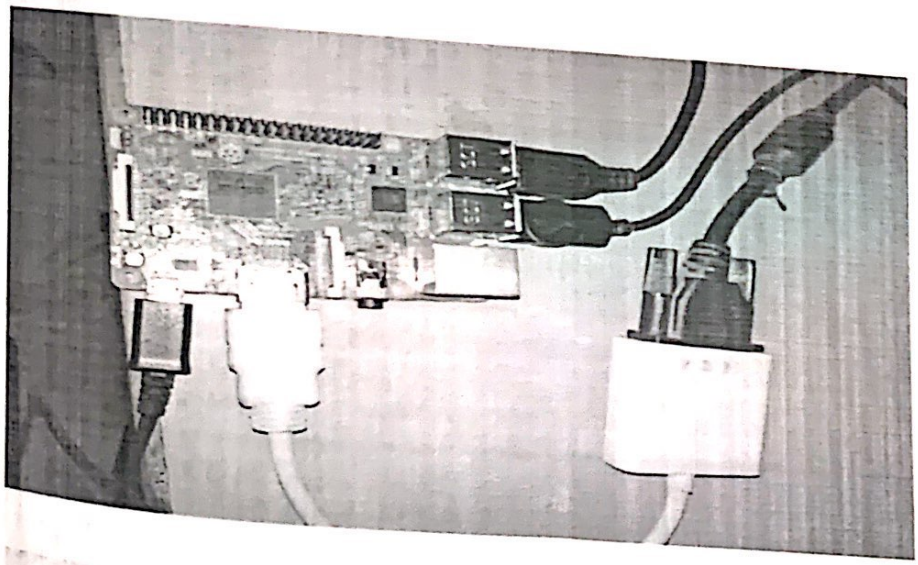
The GPU is a specialized chip in the raspberry pi board and that is designed to speed up the operation of image calculations. This board designed with a Broadcom video core IV and it supports OpenGL

Ethernet Port

The Ethernet port of the raspberry pi is the main gateway for communicating with additional devices. The raspberry pi Ethernet port is used to plug your home router to access the internet.

GPIO Pins

The general purpose input & output pins are used in the raspberry pi to associate with the other electronic boards. These pins can accept input & output commands based on programming raspberry pi. The raspberry pi affords digital GPIO pins. These pins are used to connect other electronic components. For example, you can connect it to the temperature sensor to transmit digital data.



M.A.M SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY-621105

DEPARTMENT OF MECHATRONICS ENGINEERING

REPORT ON WORKSHOP

TITLE: Internet of Things using Raspberry pi

Date and Time: 09.08.2017, 09.00 am to 04.30 pm,

Venue: Peter Norton Lab, M.A.M. School of Engineering

Resource Person: Mr.Aavudaiyapan,

Designation: Project engineer, Pantech solutions.

Organized by: Ms.G.Saranya, Assistant professor/MECHT

No of students attended: 35

Summary:

On August 18th 2017, Department of Mechatronics Engineering hosted a full day workshop entitled Internet of Things using Raspberry pi at Peter Norton Lab. M.A.M.S.E. The purpose of the workshop was to bridge the gap between curriculum and real time Industry. 35 students attended the workshop. Mr.Aavudaiyapan gave a brief introduction about the Internet of things using Raspberry pi. Practical sessions are demonstrated in the afternoon. The focus on the morning was about theory sessions. Certificates of participation were then awarded to each of the students by the Principal Dr.P.Ranjith Kumar. The training workshop was closed by 4.30PM

24/8/17

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Year / Dept: III /MECHT
Date: 08/08/2017

Name of the Programme: Workshop on "Internet of things Using Raspberry Pi"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate
   C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average
   D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average
   D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good
   D- Satisfactory
   E-Poor
8. Any other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Dept: IV /MECHT
Date: 08/08/2017

of the Programme: Workshop on "Internet of things Using rry Pi"

Feedback Report

What is your opinion about the duration of this programme?
B- Short B- Adequate
C- Long

Overall, how useful was this programme for you?
A-Very much B- To Some Extent C-Not useful

How would you rate the Teaching Qualities?
B- Very Good B- Good C-Average
D-Poor

How would you rate the Materials Presented?
B- Very Good B- Good C-Average
D-Poor

How much of knowledge you learned today?
B- A lot of it B-Satisfactory C- None of it

Did it fulfill your expectation?
B- Yes B-Some extent C- No

Planning of this Programme?
B- Excellent B-Very Good C- Good
D- Satisfactory
E-Poor

Any other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"ROBOTS IN DEFENCE"

19.08.2017

H.O.D 24/8/17

PRINCIPAL

17.08.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 19.08.2017 in your esteemed daily.

Programme	**: ROBOTS IN DEFENCE**
Date &Time	: 19th August 2017 at 11.30 am to 1.00 pm
Venue	:Smart class , M.A.M. School of Engineering
Resource Person	: Dr P.V.K.Perumal, Dean – Research & Development, M.A.M.S.E

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"ROBOTS IN DEFENCE"

RESOURCE PERSON	**: Dr. P.V.K.Perumal, Dean – Research & Development, M.A.M.S.E**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.**
PECIAL ADDRESS	**:Ms.KAVITHA.P Head Of the Department, Department of Mechatronics Engineering**
BOUT PROGRAMME	**:Ms.G.SARANYA Assistant Professor, Department of Mechatronics Engineering**
ENUE	**: SMART CLASS, MAMSE**
ATE	**:19.08.2017**
IME	**:11.30 AM to 1.00 PM**

ROBOTICS IS REVOLUTIONIZING DEFENCE SECTOR

Military robots are autonomous robots or remote-controlled mobile robots designed for military applications, from transport to search & rescue and attack. Some such systems are currently in use, and many are under development.

Broadly defined, military robots date back to World War II and the Cold War in the form of the German Goliath tracked mines and the Soviet teletanks. The MQB-1 Predator drone was when "CIA officers began to see the first practical returns on their decade-old fantasy of using aerial robots to collect intelligence".

The use of robots in warfare, although traditionally a topic for science fiction, is being researched as a possible future means of fighting wars. Already several military robots have been developed by various armies.

Some believe the future of modern warfare will be fought by automated weapons systems. The U.S. Military is investing heavily in research and development towards testing and deploying increasingly automated systems. The most prominent system currently in use is the unmanned aerial vehicle (IAI Pioneer & RQ-1 Predator) which can be armed with Air-to-ground missiles and remotely operated from a command center in reconnaissance roles. DARPA has hosted competitions in 2004 & 2005 to involve private companies and universities to develop unmanned ground vehicles to navigate through rough terrain in the Mojave Desert for a final prize of 2 Million.

Artillery has seen promising research with an experimental weapons system named "Dragon Fire II" which automates loading and ballistics calculations required for accurate predicted fire, providing a 12-second response time to fire support requests. However, military weapons are prevented from being fully autonomous: they require human input at certain intervention points to ensure that

targets are not within restricted fire areas as defined by Geneva Conventions for the laws of war.

There have been some developments towards developing autonomous fighter jets and bombers. The use of autonomous fighters and bombers to destroy enemy targets is especially promising because of the lack of training required for robotic pilots, autonomous planes are capable of performing maneuvers which could not otherwise be done with human pilots (due to high amount of G-Force), plane designs do not require a life support system, and a loss of a plane does not mean a loss of a pilot. However, the largest drawback to robotics is their inability to accommodate for non-standard conditions. Advances in artificial intelligence in the near future may help to rectify this.

Building autonomous military robots portraying impressive AI abilities could take a few more years, but this doesn't prevent us from doubting the morality of such advancement. There are concerns surrounding the military usefulness and legality of such technologies. The so-called AI-powered "Harbingers of Peace" could easily turn against their creators (humans), in a moment of emotional lapse. Moreover, using AI-based systems for support and managerial jobs is one thing, but utilizing Artificial Intelligence for developing non-human combatants is a completely different thing. Another concern perturbing researchers and technologists is that the use of AI might shift humans from the position of decision-making to that of monitoring decisions.

24/8/17

M.AM.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "Robots in Defence", on 19th August at Smart class. The guest speaker was Dr. P.V.K.Perumal, Dean – R&D, M.A.M.S.E. The event started with a welcome address delivered by the Head of the Department Mrs.P.Kavitha. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 11.30 A.M and ended around 1.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

19/8/12

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

/ Dept: IV /MECHT Date: 19/08/2017

of the Programme: Guest Lecture on "Robots in Defence"

Feedback Report

What is your opinion about the duration of this programme?

B- Short B- Adequate C- Long

Overall, how useful was this programme for you?

A-Very much B- To Some Extent C-Not useful

How would you rate the Teaching Qualities?

B- Very Good B- Good C-Average D-Poor

How would you rate the Materials Presented?

B- Very Good B- Good C-Average D-Poor

How much of knowledge you learned today?

B- A lot of it B-Satisfactory C- None of it

Did it fulfill your expectation?

B- Yes B-Some extent C- No

Planning of this Programme?

B- Excellent B-Very Good C- Good D- Satisfactory E-Poor

Any other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Year / Dept: II /MECHT Date: 19/08/2017

Name of the Programme: Guest Lecture on "Robots in Defence"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor
8. Any other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE On

"BIG DATA"

29.08.2017

H.O.D 29/9/17

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"BIG DATA"

RESOURCE PERSON	**: Mr. MOHAMED IQBAL** **Project manager,** **AADHROSE INFOTECH**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR** **Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Mrs.KAVITHA.P** **Head Of the Department,** **Department of Mechatronics Engineering**
ABOUT PROGRAMME	**:Mr.P.SABTHAGIRI RAJAN** **Assistant Professor,** **Department of Mechatronics Engineering**
VENUE	**: SMART CLASS,** **MAMSE**
DATE	**:29.08.2017**
TIME	**:10.30 AM to 01.30 PM**

28.08.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu.
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding.

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 29.08.2017 in your esteemed daily.

Programme	**: BIG DATA .**
Date &Time	: 29th August 2017 at 10.30 am to 01.30 pm
Venue	: Smart Class , M.A.M. School of Engineering
Resource Person	: MOHAMED IQBAL Project Engineer, Aadhrose Infotech

Thanking you.

M.AM.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "Big Data", on 29th August at Smart class. The guest speaker was Mr.Mohamed Iqbal, Network Administrator, AADHROSE INFOTECH . Trichy. The event started with a welcome address delivered by the Head of the Department Mrs.P.Kavitha. In his talk, he explained the importance of the projects in their career. The lecture started around 10.30 A.M and ended around 1.30 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

29/8/17.

BIG DATA

Big data is a term for data sets that are so large or complex that traditional data processing application software is inadequate to deal with them. Big data challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating and information privacy.

Lately, the term "big data" tends to refer to the use of predictive analytics, user behavior analytics, or certain other advanced data analytics methods that extract value from data, and seldom to a particular size of data set. "There is little doubt that the quantities of data now available are indeed large, but that's not the most relevant characteristic of this new data ecosystem." Analysis of data sets can find new correlations to "spot business trends, prevent diseases, and combat crime and so on." Scientists, business executives, practitioners of medicine, advertising and governments alike regularly meet difficulties with large data-sets in areas including Internet search, fintech, urban informatics, and business informatics. Scientists encounter limitations in e-Science work, including meteorology, genomics, connectomics, complex physics simulations, biology and environmental research.

Data sets grow rapidly - in part because they are increasingly gathered by cheap and numerous information-sensing Internet of things devices such as mobile devices, aerial (remote sensing), software logs, cameras, microphones, radio-frequency identification (RFID) readers and wireless sensor networks. The world's technological per-capita capacity to store information has roughly doubled every 40 months since the 1980s; as of 2012, every day 2.5 exabytes (2.5×10^{18}) of data are generated. One question for large enterprises is determining who should own big-data initiatives that affect the entire organization.

Relational database management systems and desktop statistics- and visualization-packages often have difficulty handling big data. The work may require "massively parallel software running on tens, hundreds, or even thousands of servers". What counts as "big data" varies depending on the capabilities of the users and their tools, and expanding capabilities make big data a moving target. "For some organizations, facing hundreds of gigabytes of data for the first time may trigger a need to reconsider data management options. For others, it may take tens or hundreds of terabytes before data size becomes a significant consideration."

Characteristics

Big data can be described by the following characteristics:

Volume

The quantity of generated and stored data. The size of the data determines the value and potential insight- and whether it can actually be considered big data or not.

Variety

The type and nature of the data. This helps people who analyze it to effectively use the resulting insight.

Velocity

In this context, the speed at which the data is generated and processed to meet the demands and challenges that lie in the path of growth and development.

Variability

Inconsistency of the data set can hamper processes to handle and manage it.

Veracity

The quality of captured data can vary greatly, affecting the accurate analysis.

Factory work and Cyber-physical systems may have a 6C system:

- Connection (sensor and networks)
- Cloud (computing and data on demand)
- Cyber (model and memory)
- Content/context (meaning and correlation)
- Community (sharing and collaboration)
- Customization (personalization and value)

Data must be processed with advanced tools (analytics and algorithms) to reveal meaningful information. For example, to manage a factory one must consider both visible and invisible issues with various components. Information generation algorithms must detect and address invisible issues such as machine degradation, component wear, etc. on the factory floor.

Architecture

Big data repositories have existed in many forms, often built by corporations with a special need. Commercial vendors historically offered parallel database management systems for big data beginning in the 1990s. For many years, Winter Corp published a largest database report.

Tera data Corporation in 1984 marketed the parallel processing DBC 1012 system. Tera data systems were the first to store and analyze 1 terabyte of data in 1992. Hard disk drives were 2.5GB in 1991 so the definition of big data continuously evolves according to Kryder's Law. Tera data installed the first pet a byte class RDBMS based system in 2007. As of 2017, there are a few dozen peta byte class Tera data relational databases installed, the largest of which exceeds 50 PB. Systems up until 2008 were 100% structured relational data. Since then, Tera data has added unstructured data types including XML, JSON, and Avro.

In 2000, Seisint Inc. (now LexisNexis Group) developed a C++-based distributed file sharing framework for data storage and query. The system stores and distributes structured, semi-structured, and unstructured data across multiple servers. Users can build queries in a C++ dialect called ECL. ECL uses an "apply schema on read" method to infer the structure of stored data when it is queried, instead of when it is stored. In 2004, LexisNexis acquired Seisint Inc. and in 2008 acquired Choice Point, Inc. And their high-speed parallel processing platform. The two platforms were merged into HPCC (or High-Performance Computing Cluster) Systems

and in 2011, HPCC was open-sourced under the Apache v2.0 License. Quantcast File System was available about the same time.

In 2004, Google published a paper on a process called Map Reduce that uses a similar architecture. The Map Reduce concept provides a parallel processing model, and an associated implementation was released to process huge amounts of data. With Map Reduce, queries are split and distributed across parallel nodes and processed in parallel (the Map step). The results are then gathered and delivered (the Reduce step). The framework was very successful, so others wanted to replicate the algorithm. Therefore, an implementation of the Map Reduce framework was adopted by an Apache open-source project named Hadoop.

MIKE2.0 is an open approach to information management that acknowledges the need for revisions due to big data implications identified in an article titled "Big Data Solution Offering". The methodology addresses handling big data in terms of useful permutation of data sources, complexity in interrelationships, and difficulty in deleting (or modifying) individual records.

2012 studies showed that multiple-layer architecture is one option to address the issues that big data presents. A distributed parallel architecture distributes data across multiple servers; these parallel execution environments can dramatically improve data processing speeds. This type of architecture inserts data into a parallel DBMS, which implements the use of Map Reduce and Hadoop frameworks. This type of framework looks to make the processing power transparent to the end user by using a front-end application server.

Big data analytics for manufacturing applications is marketed as a 5C architecture (connection, conversion, cyber, cognition, and configuration).

The data lake allows an organization to shift its focus from centralized control to a shared model to respond to the changing dynamics of information management. This enables quick segregation of data into the data lake, thereby reducing the overhead time.

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621 105

Year / Dept:

Date: 1../2/2016

Name of the Programme:

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long
2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful
3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor
4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor
5. **How much of knowledge you learned today?**
   A- a lot of it B – Satisfactory C – None of it
6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No
7. Planning of this Programme?
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)

Siruganur, Tiruchirappalli – 621 105

Year / Dept: Date:

Name of the Programme:

Feedback Report

1. **What is your opinion about the duration of this Programme?**
   A – Short B – Adequate C – Long

2. **Overall, how useful was this Programme for you?**
   A – Very Much B – To Some Extent C – Not useful

3. **How would you rate the Teaching Qualities?**
   A-Very Good B – Good C – Average D – Poor

4. **How would you rate the Materials Presented?**
   A-Very Good B – Good C – Average D – Poor

5. **How much of knowledge you learned today?**
   B- a lot of it B – Satisfactory C – None of it

6. **Did it fulfill your expectations?**
   A – Yes B – To Some extent C – No

7. **Planning of this Programme?**
   A – Excellent B – Very Good C – Good D – Satisfactory
   E- Poor

Any Other Comment (if any):

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

WORKSHOP

On

"INDUSTRIAL CORPORATE ROBOTICS TECH SHOW – 2017"

12.09.2017

H.O.D 13/7/17

PRINCIPAL

09.09.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** - Regarding.

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 09.09.2017 in your esteemed daily.

Programme : **"Industrial Corporate Roboties TECH SHOW – 2017"- Department of Mechatronics Engineering**

Date & Time : 12th September 2017 , 09.00 am to 04.30 pm

Venue : Seminar Hall, M.A.M. School of Engineering

Resource Person : **Mr. S.KUMAR**
Manager, AGIIT

&

Mr. *LIJO* CHRISTO
Senior Application Engineer, AGIIT
Trichy

Thanking you,

Warm regards,

PRINCIPAL

M.A.M.SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Accredited by NAAC,New Delhi
(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)
Trichy – Chennai Trunk Road, Siruganur, Trichy – 621 105

Department of Mechatronics Engineering

Cordially invites you for the Inaugural Function of

INDUSTRIAL CORPORATE ROBOTICS TECH S

In association with
AGIIT - YASKAWA PARTNERSHIP

Resource persons
Mr. N.KUMAR
Manager, AGIIT
&
Mr. J.JIJO CHRISTO
Senior Application Engineer, AGIIT

at 9.00 A.M, on 12th September 2017,
in Seminar Hall

AL HAJ Er. M.A. PEER MOHAMED
Correspondent , M.A.M.S.E
Presides

Dr. P.Ranjith Kumar
Principal , M.A.M.S.E
Felicitates

G.Saranya
dinator

Convener

M.A.M. SCHOOL OF ENGINEERING

(An ISO 9001:2008 Certified Institution)
Accredited by NAAC, New Delhi
(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)
Trichy – Chennai Trunk Road, Siruganur, Trichy – 621 105.

ORGANIZING COMMITTEE

Convener:

Ms.P.Kavitha,
HOD/MECHT

Coordinator:
Ms.G.Saranya,
AP/MECHT

Committee Members:

1.Mr.A.Nallathambi,
ASP/MECHT

2.Ms.K.Priya
ASP/MECHT

3.Mr.A.Arivazhagan
AP/MECHT

4.Mr.P.Sabthagiri Rajan
AP/MECHT

5.Mr.M.Chandra Mohan
AP/MECHT

To

The PRINCIPAL,

Warm Greetings from M.A.M.S.E

KIND ATTENTION: Head of the Department- Mechatronics, Mechanical, EEE, ECE, CSE & IT

Dear Sir/ Madam,

The Department of Mechatronics Engineering is organizing an **"Industrial Corporate Robotics TECH SHOW – 2017"** on **12.09.17** in association with AGHT and YASKAWA.

We request you to depute your faculty members, students of both UG & PG to attend the workshop.

The brochure and invitation are enclosed for your reference and circulation among faculty members and students.

Looking forward to your active participation.

Thanking You,

INDUSTRIAL CORPORATION ROBOTICS
TECH SHOW 2017

For the first time in India, yaskawa has launched a mobile robotics demonstration and training module to increase the awareness of industrial robotics, this path breaking innovation will allow us to setup hands-on training platforms along with seminars and provide the students with a first hand opportunity to learn the operations of industrial robots and get trained on its applications.

INDUSTRIAL ROBOTS

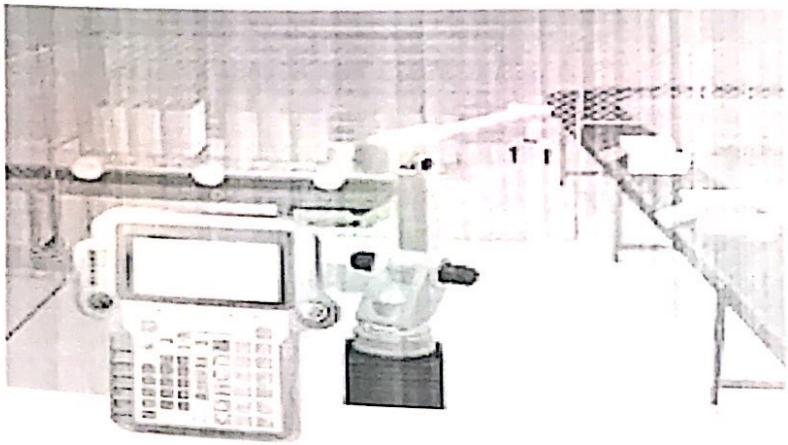
An **industrial robot** is a robot system used for manufacturing. Industrial robots are automated, programmable and capable of movement on two or more axes.

Typical applications of robots include welding, painting, assembly, pick and place for printed circuit boards, packaging and labeling, palletizing, product inspection, and testing; all accomplished with high endurance, speed, and precision. They can help in material handling and provide interfaces.

TYPES AND FEATURES

The most commonly used robot configurations are articulated robots, SCARA robots, delta robots and Cartesian coordinate robots, (gantry robots or x-y-z robots). In the context of general robotics, most types of robots would fall into the category of robotic arms (inherent in the use of the word *manipulator* in ISO standard 1738). Robots exhibit varying degrees of autonomy:

- Some robots are programmed to faithfully carry out specific actions over and over again (repetitive actions) without variation and with a high degree of accuracy. These actions are determined by programmed routines that specify the direction, acceleration, velocity, deceleration, and distance of a series of coordinated motions.
- Other robots are much more flexible as to the orientation of the object on which they are operating or even the task that has to be performed on the object itself, which the robot may even need to identify. For example, for more precise guidance, robots often contain machine vision sub-systems acting as their visual sensors, linked to powerful computers or controllers. Artificial intelligence, or what passes for it is becoming an increasingly important factor in the modern industrial robot.



Advantages of Industrial Robots

1. Increased efficiency

Industrial robots are able to complete certain tasks faster and better than people, as they are designed to perform these tasks with a higher accuracy level. This and the fact that they are used to automate processes which previously might have taken significantly more time and resources, means that you can often use industrial robots to increase the efficiency of your production line.

2. Higher quality

Due to their high accuracy levels, robots can also be used to produce higher quality products which adhere to certain standards of quality, whilst also reducing the time needed for quality control.

3. Improved working environment

Industrial robots are often used for performing tasks which are deemed as dangerous for humans, as well as being able to perform highly laborious and repetitive tasks. Overall, by using industrial robots you can improve the working conditions and safety in your factory or production plant. Robots don't get tired and make dangerous mistakes, neither do they suffer from repetitive strain injury.

4. Increased profitability

By increasing the efficiency of your production process, reducing the resources and time needed to complete it, and also achieving higher quality products, industrial robots can thus be used to achieve higher profitability levels overall, with lower cost per product.

5. **Longer working hours**

Typically people have to have breaks, get distracted and after time attention drops and pace slows. With a robot it can work 24/7, and keeps running at 100%. Typically if you replace one person on a key process in a production line with a robot the output increases by 40% in the same working hours just because a robot has more stamina and never stops. Robots also don't take holidays or have unexpected days off sick.

6. **Prestige**

You set yourself at the cutting edge of your industry and wow your customers when they come to see you. As a marketing tool robots are fantastic, but you get brand image, and have often been used simply for the PR even if they don't offer many benefits over a bespoke non-robotic system.

Disadvantages of Industrial Robots

1. **Capital cost**

Whilst industrial robots can prove highly effective and bring you a positive ROI, implementing them might require a fairly high capital cost. That's why, before making a decision we recommend considering both the investment needed and the ROI you expect to achieve. Often the easiest way to get round this is to take out asset finance and the ROI of the robot more than pays for the interest on the asset finance.

2. **Expertise**

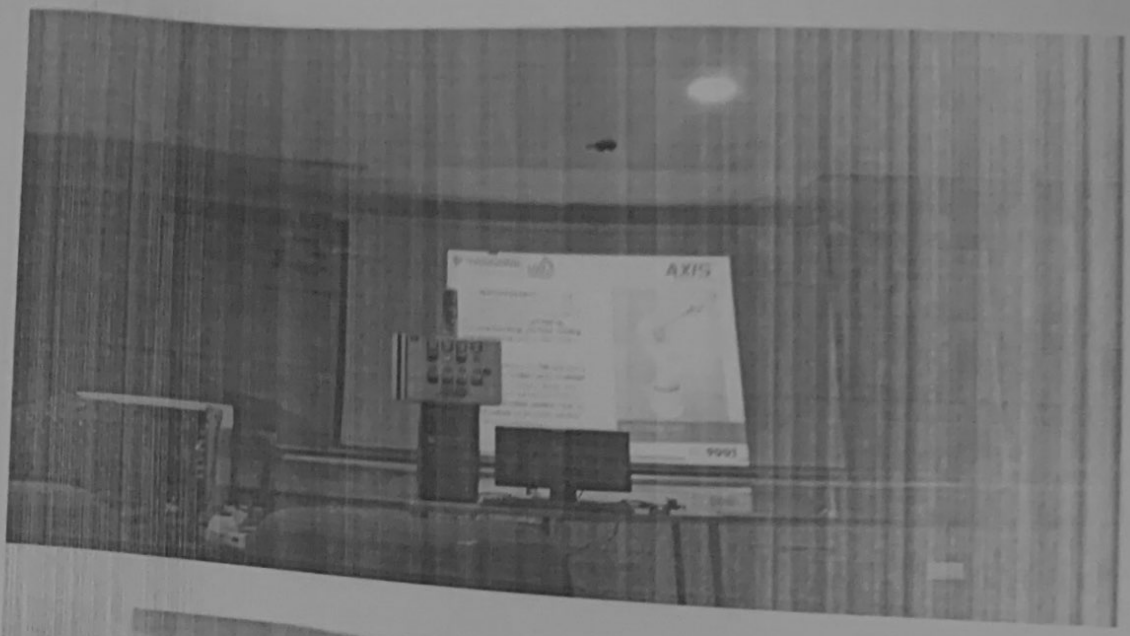
Whilst industrial robots are excellent for performing many tasks, as with any other type of technology, they require more training and expertise to initially set up. The expertise of a good automation company with a support package will be very important. To minimize your reliance on automation companies you can train some of your engineers on how to program robots, but you will still need the assistance of experienced automation companies for the original integration of the robot.

3. **Limitations**

In recent years the number of industrial robots and the applications they can be used for has increased significantly. However, there still are some limitations in terms of the type of tasks they can perform, which is why we suggest that an automation company looks at your requirement to assess the options first. Sometimes a bespoke automated system may give a better or faster result than a robot. Also, a robot does not have everything built into it, often the success of

failure of an industrial robotic system depends on how well the surrounding systems are integrated e.g. grippers, vision systems, conveyor systems etc. Only use good trusted robot integrators to be sure of the optimum results if you do choose to use industrial robots.

P. Lain
13/9/17.



NEERING M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Year / Dept: /MECHT Date: 12/09/2017

Name of the Programme: : Workshop on "INDUSTRIAL CORPORATION TECH SHOW-2017"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
   B- Overall, how useful was this programme for you?
   A-Very much B- To Some Extent C-Not useful
   C- How would you rate the Teaching Qualities?
   B- Very Good B- Good C-Average
   D-Poor
   D- How would you rate the Materials Presented?
   B- Very Good B- Good C-Average
   D-Poor
   E- How much of knowledge you learned today?
   B- A lot of it B-Satisfactory C- None of it
   F- Did it fulfill your expectation?
   B- Yes B-Some extent C- No
   G- Planning of this Programme?
   A- Excellent B-Very Good C- Good
   D- Satisfactory E-Poor
   B- Any other Comment (if any):

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Year / Dept: /MECHT Date: 12/09/2017

Name of the Programme: Workshop on "INDUSTRIAL CORPORATION TECH SHOW-2017"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor
8. **Any other Comment (if any):**

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"CNC PROGRAMMING"

10.10.2017

H.O.D 20/10/17

PRINCIPAL

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli - 620017.

Subject: Request to publish in **"Today's Engagement Column"**

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 10.10.2017 in your esteemed daily.

Programme	**: CNC PROGRAMMING**
Date & Time	: 10th Oct 2017 at 2.30 pm to 5.30 pm
Venue	:Smart class , M.A.M. School of Engineering
Resource Person	: Prof. P.HARIHARAN, Professor, Department of Manufacturing Engineering, College of Engineering Guindy, Anna University, Chennai

Thanking you,

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"CNC PROGRAMMING"

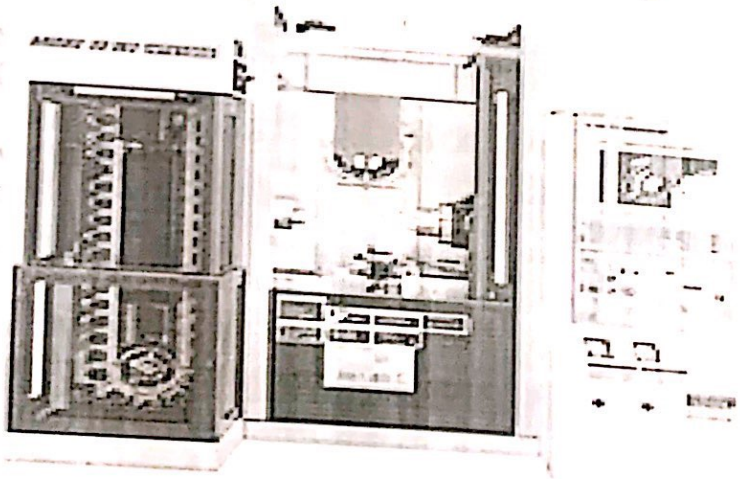
RESOURCE PERSON	**: Prof. P.HARIHARAN,** **Professor,Dept of Manufacturing Engg.** **College of Engineering Guindy,** **Anna University, Chennai**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR** **Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Ms.KAVITHA.P** **Head Of the Department,**
Engineering	**Department of Mechatronics**
ABOUT PROGRAMME	**:Mr.M.CHANDRA MOHAN** **Assistant Professor,**
	Department of Mechatronics Engineering
VENUE	**: SMART CLASS,** **MAMSE**
DATE	**:10.10.2017**
TIME	**:2.30 PM to 5.30 PM**

CNC TECHNOLOGY

Computer numerical control (CNC) is the automation of machine tools by means of computers executing pre-programmed sequences of machine control commands. This is in contrast to machines that are manually controlled by hand wheels or levers, or mechanically automated by cams alone.

In modern CNC systems, the design of a mechanical part and its manufacturing program is highly automated. The part's mechanical dimensions are defined using computer-aided design (CAD) software, and then translated into manufacturing directives by computer-aided manufacturing (CAM) software. The resulting directives are transformed (by "post processor" software) into the specific commands necessary for a particular machine to produce the component, and then loaded into the CNC machine.

Since any particular component might require the use of a number of different tools – drills, saws, etc. – modern machines often combine multiple tools into a single "cell". In other installations, a number of different machines are used with an external controller and human or robotic operators that move the component from machine to machine. In either case, the series of steps needed to produce any part is highly automated and produces a part that closely matches the original CAD.



CNC TURNING CENTER

CNC PROGRAMMING

CNC programming is not a difficult task as many think, for beginners it will be useful if they divide the drawing in some smaller parts and start programming them. Actually CNC programming takes some time to master, but in short it is just a path for our tool to machine. Here is another simple CNC Lathe program.

Two types of programming modes, the incremental system and the absolute system, are used for CNC. Both systems have applications in CNC programming and no system is either right or wrong all the time. Most controls on machines today are capable of handling either incremental or absolute programming.

G-Code words			
G0	Rapid Linear Motion	G59.2	Select Coordinate System 8
G1	Linear Motion at Feed Rate	G59.3	Select Coordinate System 9
G2	Arc at Feed Rate	G80	Cancel Modal Motion
G3	Arc at Feed Rate	G81	Canned Cycles – drilling
G4	Dwell	G82	Canned Cycles – drilling with dwell
G10	Set Coordinate System Data	G83	Canned Cycles – peck drilling
G17	X-Y Plane Selection	G85	Canned Cycles – boring,no dwell, feed out
G18	Z-X Plane Selection	G86	Canned Cycles – boring, spindle stop, rapid out
G19	Y-Z Plane Selection	G88	Canned Cycles – boring, spindle stop, manual out
G20	Length Unit inches	G89	Canned Cycles – boring, dwell, feed out
G21	Length Unit milimeters	G90	Set Distance Mode Absolute
G28	Return to Home	G91	Set Distance Mode Incremental
G30	Return to Home	G92	Coordinate System Offsets
G53	Move in Absolut Coordinates	G92.1	Coordinate System Offsets
G54	Select Coordinate System 1	G92.2	Coordinate System Offsets
G55	Select Coordinate System 2	G92.3	Coordinate System Offsets
G56	Select Coordinate System 3	G93	Set Feed Rate Mode units/minutes
G57	Select Coordinate System 4	G94	Set Feed Rate Mode inverse time
G58	Select Coordinate System 5	G98	Set Canned Cycle Return Level
G59	Select Coordinate System 6	G99	Set Canned Cycle Return Level
G59.1	Select Coordinate System 7		

List of M-codes

Code	Description	Milling (MC)	Turning (LC)
M00	Compulsory stop	NC	
M01	Optional stop	NC	
M02	End of program	NC	
M03	Spindle on (clockwise rotation)	NC	
M04	Spindle on (counterclockwise rotation)	NC	
M05	Spindle stop	NC	
M06	Automatic tool change (ATC)	NC	
M07	Coolant on (mist)	NC	
M08	Coolant on (flood)	NC	
M09	Coolant off	NC	
M13	Spindle on (clockwise rotation) and coolant on (flood)	NC	
M19	Spindle orientation	NC	
M21	Mirror, X-axis	NC	
M21	Tailstock forward		
M22	Mirror, Y-axis	NC	
M22	Tailstock backward		
M23	Mirror OFF	NC	
M23	Thread gradual pullout ON		
M24	Thread gradual pullout OFF		
M30	End of program, with return to program top	NC	
M41	Gear select – gear 1		
M42	Gear select – gear 2		
M43	Gear select – gear 3		
M44	Gear select – gear 4		
M48	Feedrate override allowed	NC	
M49	Feedrate override NOT allowed	NC	
M52	Unload last tool from spindle	NC	
M60	Automatic pallet change (APC)	NC	
M98	Subprogram call	NC	
M99	Subprogram end	NC	

M.AM.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "CNC PROGRAMMING", on 10th October at Smart class. The guest speaker was Prof. P.HARIHARAN, Professor, Department of Manufacturing Engineering, College of Engineering Guindy, Anna University, Chennai. The event started with a welcome address delivered by the Head of the Department Mrs.P.Kavitha. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of CNC applications with specific examples. The lecture started around 2.30 P.M and ended around 5.30 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGG

20/10/17

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

ar / Dept: III /MECHT Date: 10/10/2017

me of the Programme: Guest Lecture on "CNC Programming"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   B- Short B- Adequate
   C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   B- Very Good B- Good C-Average
   D-Poor
4. **How would you rate the Materials Presented?**
   B- Very Good B- Good C-Average
   D-Poor
5. **How much of knowledge you learned today?**
   B- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   B- Yes B-Some extent C- No
7. **Planning of this Programme?**
   B- Excellent B-Very Good C- Good
   D- Satisfactory
   E-Poor
8. Any other Comment (if any):

Lathe Programming can be also explained in exam point of view.

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Year / Dept: III /MECHT Date: 10/10/2017

Name of the Programme: Guest Lecture on "CNC Programming"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate
   ~~C-~~ Long
2. **Overall, how useful was this programme for you?**
   ~~A-~~Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good ~~B-~~ Good C-Average
   D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good ~~B-~~ Good C-Average
   D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it ~~B-~~Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   ~~A-~~ Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good
   ~~D-~~ Satisfactory
   E-Poor
8. Any other Comment (if any):

this session can be planed in the Morning.

M.A.M SCHOOL OF ENGINEERING

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"ARDUINO IN ROBOTICS"

22.12.2017

22/12/17

H.O.D

PRINCIPAL

19.12.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 22.12.2017 in your esteemed daily.

Programme	: **"Arduino in Robotics"**
Date &Time	: 22nd NOV1'7 at 10 AM to 12PM
Venue	:Smart class , M.A.M. School of Engineering
Resource Person	: **Mr.S.Jeevantham M.E ,** **Maintenance Engineer,** **SMW Hydraulics India,** **Erode**

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"ARDUINO IN ROBOTICS"

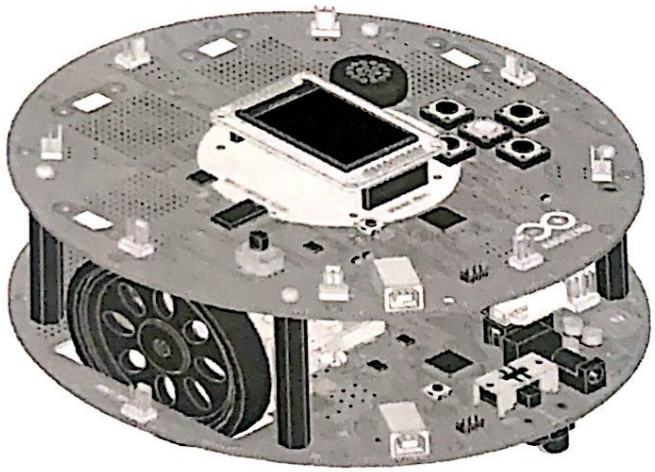
RESOURCE PERSON	**: Mr.S.JEEVANTHAM M.E , Maintenance Engineer, SMW Hydraulics India, Erode**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Ms.K.PRIYA Head Of the Department, Department of Mechatronics Engineering**
ABOUT PROGRAMME	**:Mr.CHANDRA MOHAN.M Assistant Professor, Department of Mechatronics Engineering**
VENUE	**: SMART CLASS, MAMSE**
DATE	**:22.12.2017**
TIME	**:10.00 AM to 12.00 PM**

ARDUINO IN ROBOTICS\

OVERVIEW

The Arduino Robot is the first official Arduino on wheels. The robot has two processors, one on each of its two boards. The Motor Board controls the motors, and the Control Board reads sensors and decides how to operate. Each of the boards is a full Arduino board programmable using the Arduino IDE. Both Motor and Control boards are microcontroller boards based on the ATmega32u4 (datasheet). The Robot has many of its pins mapped to on-board sensors and actuators. Programming the robot is similar to the process with the Arduino Leonardo. Both processors have built-in USB communication, eliminating the need for a secondary processor. This allows the Robot to appear to a connected computer as a virtual (CDC) serial / COM port. As always with Arduino, every element of the platform – hardware, software and documentation – is freely available and open-source. This means you can learn exactly how it's made and use its design as the starting point for your own robots. The Arduino Robot is the result of the collective effort from an international team looking at how science can be made fun to learn. Arduino is now on wheels, come ride with us! You can find here your board warranty information.

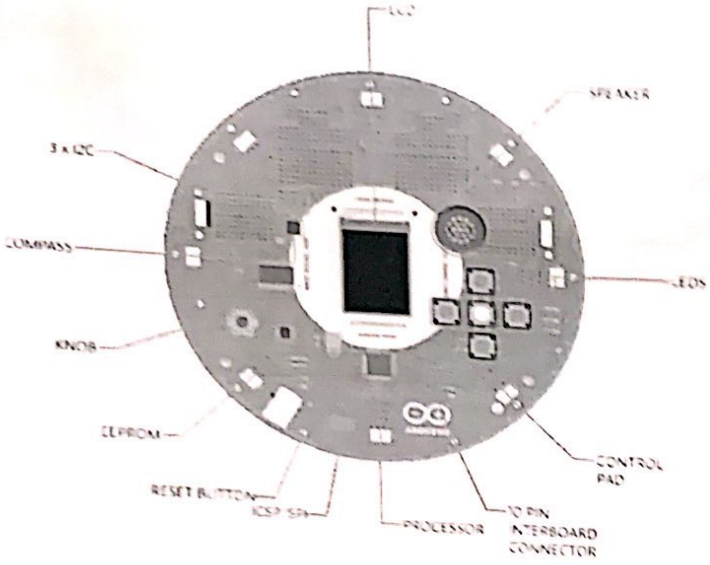
GETTING STARTED WITH THE ARDUINO ROBOT

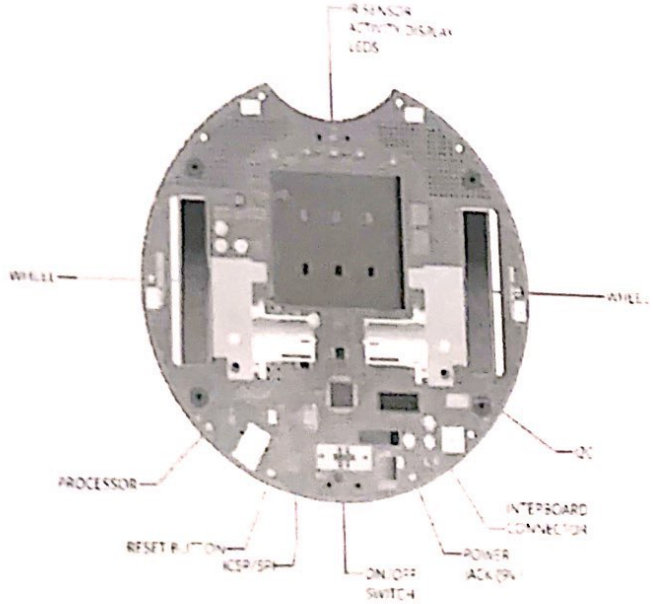


With the Arduino Robot, you can learn about electronics, mechanics, and software. It is a tiny computer on wheels. It comes with a number of project examples you can easily replicate, and it is a powerful robotics platform that you can hack to perform all sorts of tasks.

The robot comes with a large number of inputs; two potentiometers, five buttons, a digital compass, five floor sensors, and an SD card reader. It also has a speaker, two motors, and a color screen as outputs. You can control all these sensors and actuators through the Robot library.

There are two different boards on the Robot: the Control Board (top) and the Motor Board (bottom). If you're just getting started with electronics and programming, you should work with the Control Board. As you become more experienced, you may want to tinker with the Motor Board.





M.AM.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "ARDUINO IN ROBOTICS", on 22th December at Smart class. The guest speaker was Mr.S.Jeevantham M.E, Maintenance Engineer, SMW Hydraulics India, Erode. The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 10.00 A.M and ended around 12.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

22/12/17

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

/ Dept: II /MECHT Date: 22/12/2017

of the Programme: Guest Lecture on "Arduino in Robotics"

Feedback Report

What is your opinion about the duration of this programme?

B- Short B- Adequate C- Long

Overall, how useful was this programme for you?

A- Very much B- To Some Extent C-Not useful

How would you rate the Teaching Qualities?

B- Very Good B- Good C-Average D-Poor

How would you rate the Materials Presented?

B- Very Good B- Good C-Average D-Poor

How much of knowledge you learned today?

B- A lot of it B-Satisfactory C- None of it

Did it fulfill your expectation?

B- Yes B-Some extent C- No

Planning of this Programme?

B- Excellent B-Very Good C- Good D- Satisfactory E-Poor

Any other Comment (if any):

K. Kowsalya.

K. Kavya.

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

Year / Dept: /MECHT Date: 22/12/2017

Name of the Programme: Guest Lecture on "Arduino in Robotics"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short ~~B~~- Adequate
   C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good ~~B~~- Good C-Average
   D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good ~~C~~-Average
   D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it ~~B~~-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good
   D- Satisfactory
   E-Poor
8. **Any other Comment (if any):**

Indumathi. K.

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"RECENT TRENDS IN ROBOTICS"

27.12.2017

H.O.D

PRINCIPAL

26.12.2017

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 27.12.2017 in your esteemed daily.

Programme	**: "Recent Trends In Robotics"**
Date &Time	: 27th DEC1'7 at 2 PM to 5PM
Venue	:Smart class , M.A.M. School of Engineering
Resource Person	: Mr.S.SHRIRAM, Proprietor, Trichy Robotic Academy, Srirangam.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

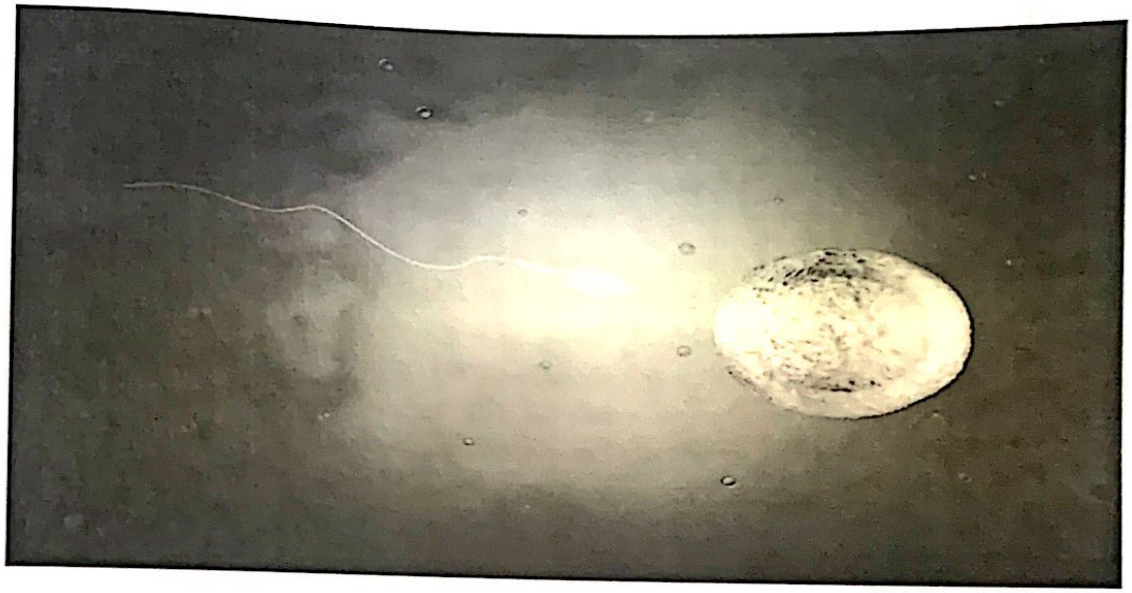
"RECENT TRENDS IN ROBOTICS"

RESOURCE PERSON	**: Mr.S.SHRIRAM, Proprietor, Trichy Robotic Academy, Srirangam.**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Ms.K.PRIYA Head Of the Department, Department of Mechatronics Engineering**
ABOUT PROGRAMME	**: Mr.G.RAJESH KUMAR Assistant Professor, Department of Mechatronics Engineering**
VENUE	**: SMART CLASS, MAMSE**
DATE	**:27.12.2017**
TIME	**:02.00 AM to 05.00 PM**

RECENT TRENDS IN ROBOTICS

Find out everything there is to know about robots and stay updated on the latest robots and inventions with the comprehensive articles and interactive features. Learn more about man's innovative creations as people and scientists continue to invent and interact with robots.

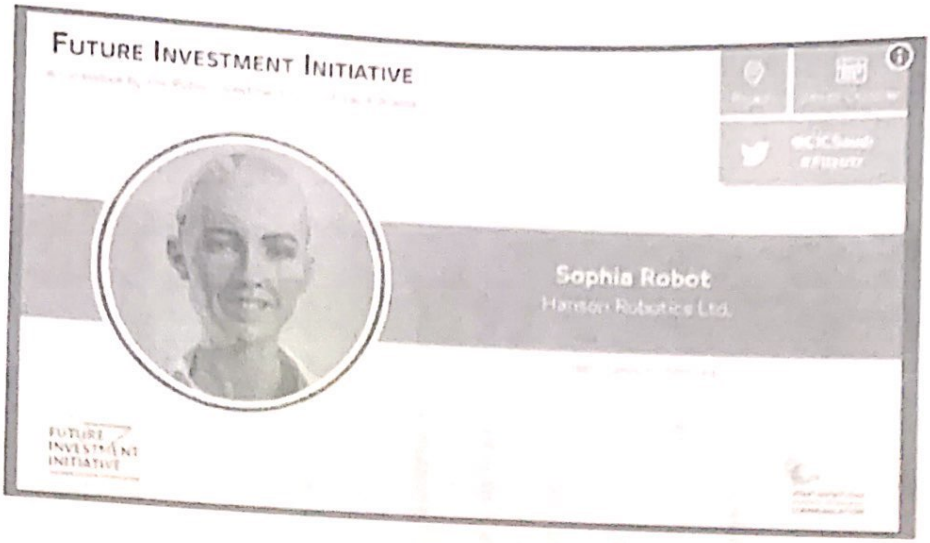
SPERMBOT MAY ONE DAY HELP TREAT CERVICAL CANCER



A biohybrid sperm microrobot might one day deliver anti-cancer drugs to tumors in the female reproductive tract, according to a new paper from germany.the sci-fi-sounding microbot, which was described in a December article in the journal acs nano, consists of sperm from a bull combined with a plastic, 3d-printed microstructure covered with an iron-based coating. This coating allows the researchers to magnetically steer the robot to the target. Then, when the biohybrid bot hits the tumor, four arms on the microstructure automatically bend, releasing the sperm cell, which penetrates the cancer cells and delivers its medical cargo. [Super-intelligent machines: 7 robotic futures]

LIFELIKE 'SOPHIA' ROBOT GRANTED CITIZENSHIP TO SAUDI ARABIA

A robot with an uncannily human-like appearance recently advanced one step closer to human status, when it was granted citizenship to Saudi Arabia at the tech summit Future Investment Initiative (FII).



Named "Sophia," the robot, created by Hanson Robotics (HR), has a pale-skinned face with features that are capable of being highly mobile and expressive and displaying a range of emotions. The company's "latest and most advanced robot," according to a statement on the HR website took to the stage at FII on Oct. 25 to address hundreds of attendees in Riyahd, Saudi Arabia, and to announce her recently acquired citizenship — the first to be given to a robot, the BBC reported.
"I am very honored and proud for this unique distinction," Sophia said during her onstage appearance, which was shared on YouTube by Arab News. "This is historical to be the first robot in the world to be recognized with a citizenship," the robot said. [Machine Dreams: 22 Human-Like Androids from Sci-Fi]

SMARTER LEARNING

Robots have always been very effective for precise, repetitive work, but for the most part they're also dumb as rocks. This is why robots are traditionally used only in carefully designed settings. It also explains why they cannot easily adapt to a new task, and cannot cope with an unfamiliar or uncertain situation. Things are changing, however, thanks to new techniques and algorithms that are enabling robots to learn much more quickly and effectively. There are various methods for enabling robot learning, and some are already producing very promising results in research labs around the world (see "Robot Toddler Learns to Stand by Imagining It, "Robots Learn to Make Pancakes from WikiHow Articles," and "A Master Algorithm Lets Robots Teach Themselves to Perform Useful Tasks").One approach in particular could be poised to have a big impact in industrial robotics. Deep learning, which uses large simulated neural networks, has already proven indispensable for training robots to understand the contents of images, video, and audio. Some companies now aim to use the approach to train robots how to see, grasp, and reason (see "A Supercharged System to Teach Robots New Tricks in Little Time").

M.AM.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "RECENT TRENDS IN ROBOTICS", on 27th December at Smart class. The guest speaker was Mr.S.SHRIRAM, Proprietor, Trichy Robotic Academy, Srirangam. The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 02.00 A.M and ended around 05.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

4/1/18.

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

III&IV /MECHT Date: 27/12/2017

Name of the Programme: Guest Lecture on "**Recent Trends In Robotics**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor
8. **Any other Comment (if any):**

Nice session, good speech

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

III&IV /MECHT Date: 27/12/2017

Name of the Programme: Guest Lecture on "**Recent Trends In Robotics**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- ……..5%..... B- ……35%……. C- ……60%….
2. **Overall, how useful was this programme for you?**
   A-…….55%..... B- ……40%..... C-…….5%....
3. **How would you rate the Teaching Qualities?**
   A-...50%... B- …30%.... C-…10%.... D-…10%....
4. **How would you rate the Materials Presented?**
   A-...60%.... B- …30%... C-…5%..... D-..5%.....
5. **How much of knowledge you learned today?**
   A-…80%..... B- ……15%..... C-…5%.....
6. **Did it fulfill your expectation?**
   A-…75%.... B- …20%..... C-….5%.....
7. **Planning of this Programme?**
   A-…50%... B-…30%…. C-…10%.. D-…5%. E-…5%…
8. **Any other Comment (if any):**

I got more knowledge from this webinar

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"ROADMAP TO AUTOMATION"

09.01.2018

H.O.D

PRINCIPAL

06.01.2018

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 09.01.2018 in your esteemed daily.

Programme	**: "Roadmap To Automation"**
Date &Time	: 09th January'18 at 2 PM to 5PM
Venue	:Seminar Hall , M.A.M. School of Engineering
Resource Person	: Mr.Senthil Kumar, Industry Expert, Learnchpad Academy, Trichy.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

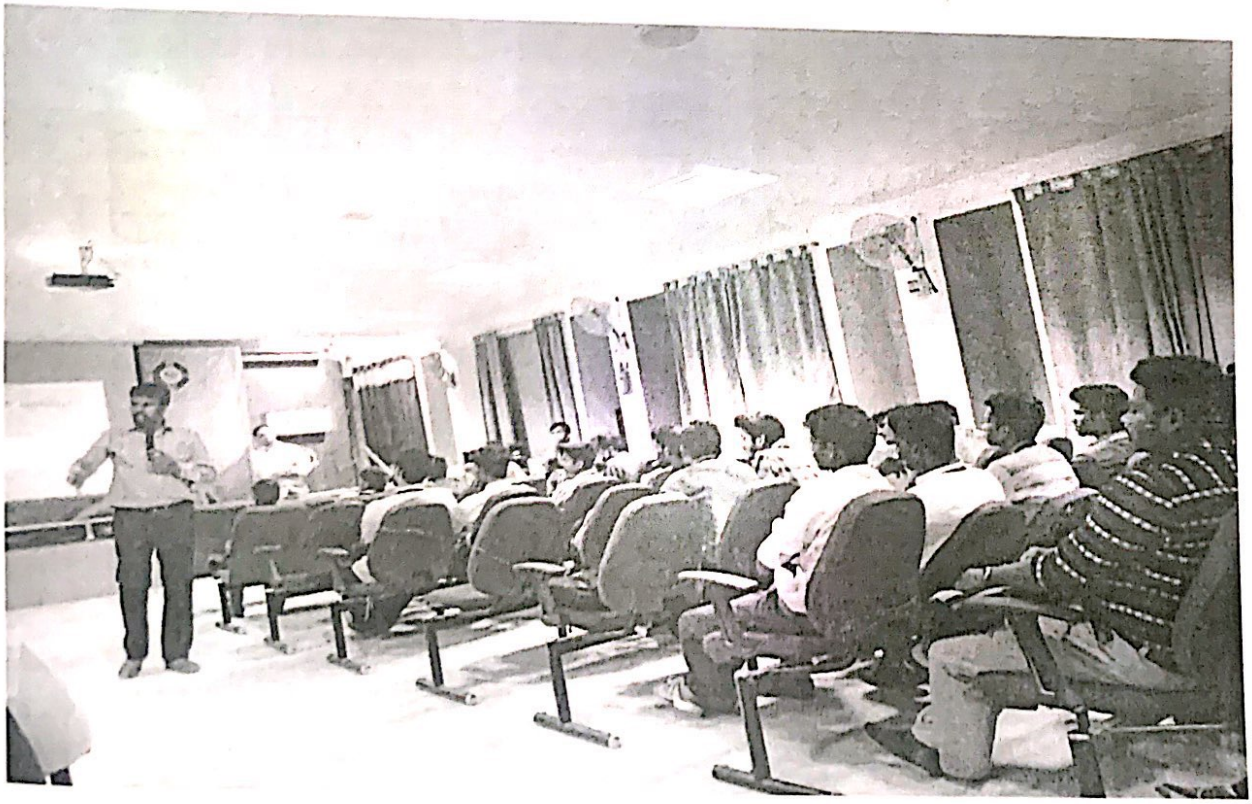
DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"ROADMAP TO AUTOMATION"

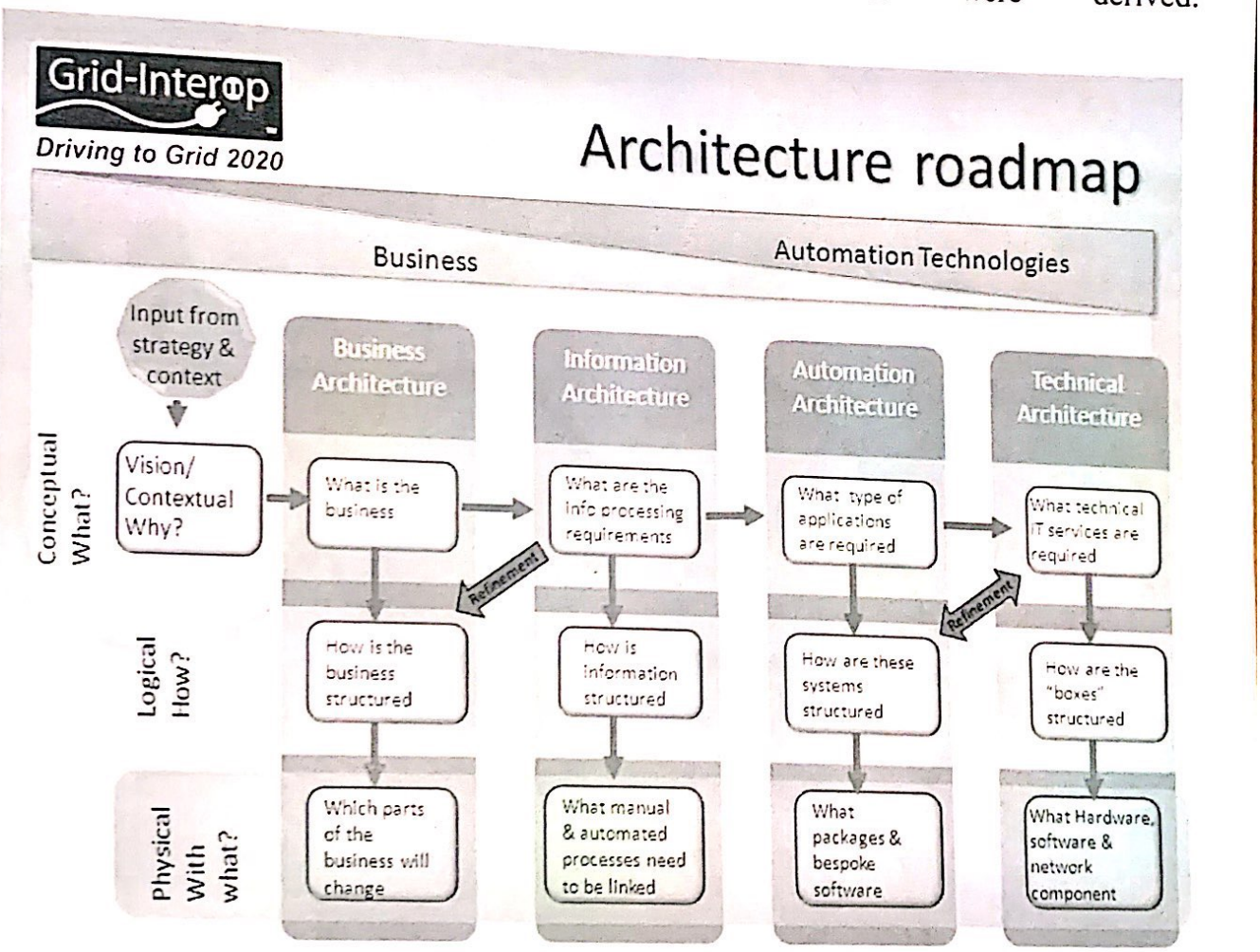
ESOURCE PERSON	:	Mr.SENTHIL KUMAR, Industry Expert, Learnchpad Academy, Trichy.
EY NOTE ADDRESS	:	Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.
PECIAL ADDRESS	:	Ms.K.PRIYA Head Of the Department, Department of Mechatronics Engineering
ABOUT PROGRAMME	:	Mr.K.M.SRIDHAR Assistant Professor, Department of Mechatronics Engineering
VENUE	:	SEMINAR HALL, MAMSE
DATE	:	09.01.2018
TIME	:	02.00 AM to 05.00 PM



ROADMAP TO AUTOMATION

ROADMAP AUTOMATION 2020+ WATER-TECHNOLOGY ROADMAP, WATER SECTOR, AUTOMATION NEED, FUTURE MARKETS

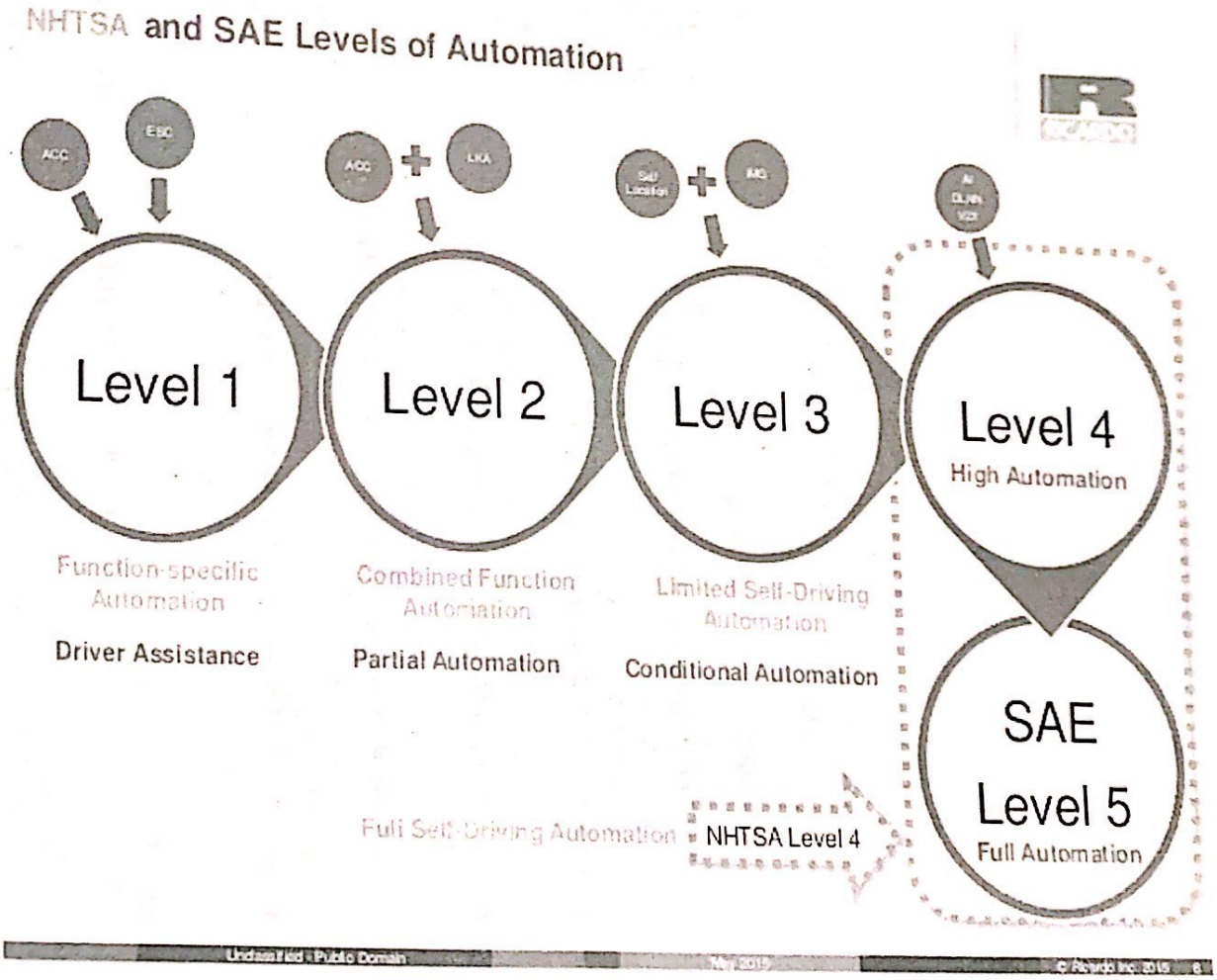
The global water sector faces massive changes. Megatrends lead to paradigm shifts. For automation technologies new markets emerge. But at the same time new development demands arise. After the huge success of the first integrated roadmap automation, initiated in 2006, the ZVEI continues its road mapping activities. The new roadmap automation 2020+ assesses in detail market segments which appear to be promising in the future. To this aim, key trends of the water sector were analyzed. Jointly with experts from the water sector and automation technology future automation needs were identified. Strategies to tap future markets were derived.



PROJECTS

AUTOMATION 2020+

The "Integrated Technology Roadmap Automation 2015+", published in fall 2006, was a complete success. It was very well received in the automation industry, as it provided important guidance and impulse for future needs in automation, based on socio-economic trends. This is unprecedented in this form. Therefore, the working group technology roadmap in the Automation Association of ZVEI - German Electrical and Electronic Manufacturers.e.V. - recommended to continue the road mapping process. Selected future markets in the fields of energy and water/wastewater should be investigated in depth and with more consideration of the international dimension. "The development of megacities" with its particular challenges in the field of infrastructure should also be analyzed. The fruitful approach of involving both automation manufacturers and -users is maintained as an important element of a successful innovation strategy. This is the only way to identify automation needs and derive future scenarios.



M.AM.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "ROADMAP TO AUTOMATION", on 09th December at Seminar Hall. The guest speaker was Mr.SENTHIL KUMAR, Industry Expert, Learnchpad Academy, Trichy.The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of Robotics applications with specific examples. The lecture started around 02.00 A.M and ended around 05.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

11/12/18

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

III&IV /MECHT Date: 09/01/2018

Name of the Programme: Guest Lecture on "**ROADMAP TO AUTOMATION**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor

(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

III&IV /MECHT Date: 09/01/2018

Name of the Programme: Guest Lecture on "**ROADMAP TO AUTOMATION**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- ……..5%..... B- ……35%……. C-……60%….
2. **Overall, how useful was this programme for you?**
   A-…….55%..... B- ……40%..... C-…….5%....
3. **How would you rate the Teaching Qualities?**
   A-..50%... B- …30%.... C-…10%.... D-…10%....
4. **How would you rate the Materials Presented?**
   A-...60%.... B- …30%... C-…5%..... D-..5%.....
5. **How much of knowledge you learned today?**
   A-…80%..... B- ……15%..... C-…5%.....
6. **Did it fulfill your expectation?**
   A-…75%.... B- …20%..... C-….5%.....
7. **Planning of this Programme?**
   A-..50%... B-…30%…. C-…10%.. D-…5%. E-…5%…

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"Non Destructive Testing (NDT)"

03.03.2018

5/3/18

H.O.D

PRINCIPAL

03.03.2018

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 03.03.2018 in your esteemed daily.

Programme	: **"Non Destructive Testing (NDT)"**
Date &Time	: 03rd March'18 at 11.30AM to 12.00PM
Venue	: Smart Class , M.A.M. School of Engineering
Resource Person	: Mr.JAYAKUMAR VELU, Industry Expert, Ever shine Institute, Tirunelveli.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"Non Destructive Testing (NDT)"

RESOURCE PERSON	:	**Mr.JAYAKUMAR VELU** **Industry Expert,** **Ever shine Institute,** **Tirunelveli.**
KEY NOTE ADDRESS	:	**Dr. P.RANJITH KUMAR** **Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	:	**Ms.K.PRIYA** **Head Of the Department,** **Department of Mechatronics Engineering**
ABOUT PROGRAMME	:	**Mr.D.MAHALINGAM** **Assistant Professor,** **Department of Mechatronics Engineering**
VENUE	:	**SMART CLASS,** **MAMSE**
DATE	:	**03.03.2018**
TIME	:	**11.30 AM to 01.00 PM**

Non Destructive Testing (NDT)

What is NDT?

Nondestructive Testing (NDT) plays an important role in assuring that structural and mechanical components perform their function in a safe, reliable, and cost-effective manner. NDT technicians perform the necessary tests to locate the indicators and discontinuities that may cause failures or shut downs in such systems. These tests are performed in a manner that does not affect the future usefulness of the object or material – hence, the name "nondestructive." NDT allows for careful and thorough materials evaluation without the need for deconstruction or damage. NDT is typically used at various points in a part's life cycle. NDT can be used prior to the use of a component for the sake of quality control. NDT is also employed while components are in use to detect service related conditions caused by wear, fatigue, corrosion, stress, or other factors which affect reliability.

NDT Technologies Include:

Visual and Optical Testing (VT)

Visual Examination can be an effective way to recognize surface imperfections that could adversely affect a part or component. Visual Examiners use knowledge of how a part is manufactured, the function of the human eye, lighting requirements, and precise measuring tools to evaluate materials. Computer controlled camera systems and optical aids such as borescopes may also be used to recognize and measure features of a component.

Radiography (RT)

Radiographic Examination involves using radioactive isotopes (gamma rays) or X-rays on materials to peer qualitatively for indications the same way a doctor looks for fractures or other conditions within the body. Radiation is directed through a part and projected onto film or a digital detection device leaving an image which can be examined by the qualified Radiographer.

Ultrasonic Testing (UT)

Ultrasonic Examination uses high-frequency sound waves which are transmitted into a material to detect discontinuities or locate changes in material characteristics. Sound is introduced into the object being examined and reflections from internal imperfections, areas of acoustic impedance, or varying geometrical surfaces are returned to a receiver.

Magnetic Particle Testing (MT)

Magnetic Particle Examination is accomplished by inducing a magnetic field into a ferromagnetic material and applying iron particles to the surface of the item being examined. Surface and near-surface discontinuities affect the flow of the magnetic field within the part causing the applied particles to gather at locations of flux leakage, thus producing a visible indication of the irregularity on the surface of the material.

Penetrant Testing (PT)

Penetrant Examination is performed with a dye solution. Once applied to the surface, the dye will effectively penetrate any surface-breaking cavity. Excess solution is removed from the object. A developer is then applied to draw out any penetrant that remains unseen. With fluorescent dyes, ultraviolet light is used to make the "bleed-out" fluoresce brightly, allowing imperfections to be readily seen. With visible dyes, a color contrast between the penetrant and developer makes the "bleed-out" easy to see.

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

II&III /MECHT Date: 03/03/2018

Name of the Programme: Guest Lecture on **"Non Destructive Testing (NDT)"**

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

II&III /MECHT Date: 03/03/2018

Name of the Programme: Guest Lecture on **"Non Destructive Testing (NDT)"**

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- ……..5%..... B- ……30%……. C- ……65%….
2. **Overall, how useful was this programme for you?**
   A-…….55%..... B- ……40%..... C-…….5%....
3. **How would you rate the Teaching Qualities?**
   A-...50%... B- …30%.... C-…10%.... D-…10%....
4. **How would you rate the Materials Presented?**
   A-...60%.... B- …30%... C-…5%..... D-..5%.....
5. **How much of knowledge you learned today?**
   A-…80%..... B- ……15%..... C-…5%.....
6. **Did it fulfill your expectation?**
   A-…75%.... B- …20%..... C-….5%.....
7. **Planning of this Programme?**
   A-…50%... B-…30%…. C-…10%.. D-…5%. E-…5%…

M.AM.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on **"Non Destructive Testing (NDT)"**, on 03rd March at Smart class. The guest speaker was Mr.JAYAKUMAR VELU, Industry Expert, Ever shine Institute, Tirunelveli. The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of NDT inspection and he has discussed the six most frequently used in NDT methods such as eddy-current, magnetic-particle, liquid penetrant, radiographic, ultrasonic, and visual testing with specific examples. The lecture started around 11.30 A.M and ended around 01.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate.

5/3/18

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY-621105

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

(An ISO 9001: 2008 Certified Institution)

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR On

"INTERNET OF THINGS"

02.02.2019

Program Co-ordinator

H.O.D

Principal

M.A.M. SCHOOL OF ENGINEERING, SIRUGANUR, TRICHY-621105
(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
(An ISO 9001: 2008 Certified Institution)
(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR

on

"INTERNET OF THINGS"

RESOURCE PERSON	**:Mr. Perikannan** **Project head,** **Chrome Software Solution,** **Madurai.**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR** **Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Mrs.M.Chandrasekar** **Head of the Department,** **Department of MECHT**
ABOUT PROGRAMME	**: Mr.K.Karthikeyan** **Assistant Professor,** **Department of MECHT.**
VENUE	**:SEMINAR HALL**
DATE	**: 02.02.2019**
TIME	**: 11.00 AM to 1.00 PM**

M.A.M. SCHOOL OF ENGINEERING

Siruganur, Trichy-621105

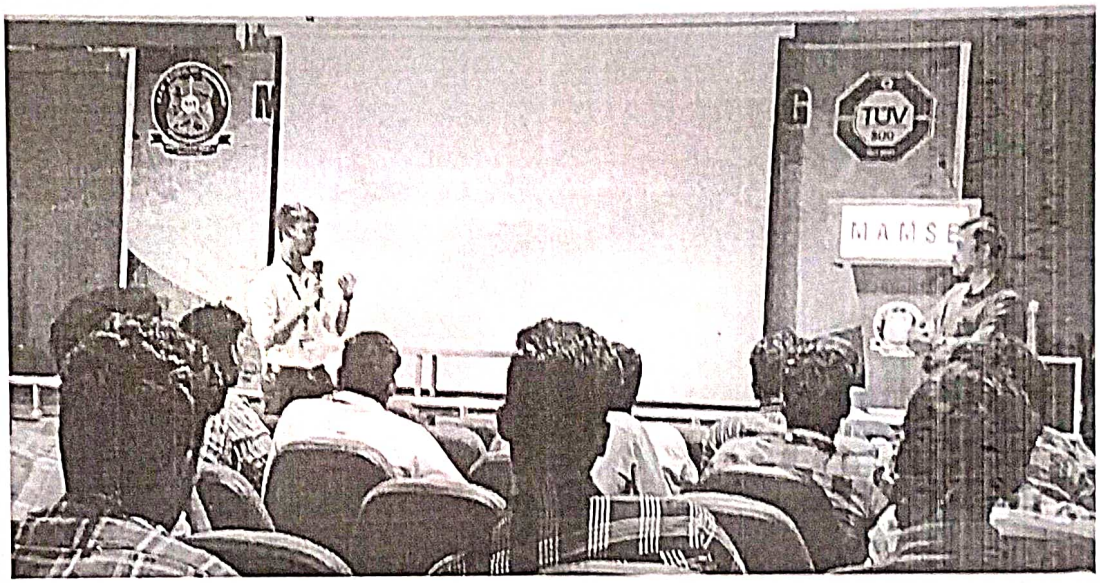
Department of Mechatronics Engineering

Guest Lecture on "INTERNET OF THINGS"

(2nd Feb, 2019)

Students of Department of Mechantronics Engineering had the privilege of having another Guest lecture and interactive session with MR. PERIKANNAN, PROJECT HEAD, CHROME SOFTWARE SOLUTION, and MADURAI on the topic of "Internet Of Things". Mrs. A.ASRAF BANU/Assistant Professor/S&H department introduced the speaker. The lecture was starts with introduction to the IOT. The IOT involves extending Internet connectivity beyond standard devices, such as desktops, laptops, smart phones and tablets, to any range of traditionally dumb or non-internet-enabled physical devices and everyday objects. Embedded with technology, these devices can communicate and interact over the Internet, and they can be remotely monitored and controlled. The Internet of Things is an emerging topic of technical, social, and economic significance. Consumer products, durable goods, cars and trucks, industrial and utility components, sensors, and other everyday objects are being combined with Internet connectivity and powerful data analytic capabilities that promise to transform the way we work, live, and play. Projections for the impact of IOT on the Internet and economy are impressive, with some anticipating as many as 100 billion connected IOT devices and a global economic impact of more than $11 trillion by 2025.

At the same time, however, the Internet of Things raises significant challenges that could stand in the way of realizing its potential benefits. Attention-grabbing headlines about the hacking of Internet-connected devices, surveillance concerns, and privacy fears already have captured public attention. Technical challenges remain and new policy, legal and development challenges are emerging. Hands on training were given by resource person and then in the end, feedback session was conducted successfully. The event ended with honorarium to the guest and vote of thanks.



Program Co-ordinator

HOD

M.A.M SCHOOL OF ENGINEERING

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC, New Delhi.
Trichy-Chennai Trunk Raod, Siruganur, Tiruchirappalli-621 105.

Name of the Programme: Seminar on **"Internet of Things"**
Date:2.2.2019

Feedback Report

1. **What is your opinion about the duration of this programme?**
   B- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B-To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   B- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   B- Very Good B-Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   B- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   B- Yes B-Some extent C- No
7. **Planning of this Programme?**
   B- Excellent B-Very Good C- Good D-Satisfactory E-Poor
8. **Any other Comment (if any):**

M.A.M SCHOOL OF ENGINEERING

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC, New Delhi.
Trichy-Chennai Trunk Raod, Siruganur, Tiruchirappalli-621 105.

Name of the Programme: Seminar on "Internet of Things"
Date:2.2.2019

Feedback Report

9. **What is your opinion about the duration of this programme?**
   D- Short B- Adequate C- Long
10. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
11. **How would you rate the Teaching Qualities?**
   D- Very Good B- Good C-Average D-Poor
12. **How would you rate the Materials Presented?**
   D- Very Good B- Good C-Average D-Poor
13. **How much of knowledge you learned today?**
   D- A lot of it B-Satisfactory C- None of it
14. **Did it fulfill your expectation?**
   D- Yes B-Some extent C- No
15. **Planning of this Programme?**
   D- Excellent B-Very Good C- Good D-Satisfactory E-Poor
16. **Any other Comment (if any):**

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY-621105

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

(An ISO 9001: 2008 Certified Institution)

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR On

"CAREER DEVELOPMENT FOR ENGINEERS"

22.01.2019

Program Coordinator H.O.D Principal

M.A.M. SCHOOL OF ENGINEERING, SIRUGANUR, TRICHY-621105
(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
(An ISO 9001: 2008 Certified Institution)
(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

SEMINAR

on

"CAREER DEVELOPMENT FOR ENGINEERS"

RESOURCE PERSON	**: Dr. S.Thiyagarajan, M.E.., Ph.D... Managing director, GIT, Trichy.**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Mr.M.C handrasekar Head of the Department, Department of MECHT**
ABOUT PROGRAMME	**: Mr.K.Karthikeyan Assistant Professor, Department of EEE.**
VENUE	**: ELECTRONIC CIRCUITS LAB**
DATE	**: 22.01.2019**
TIME	**: 02.30 PM to 4.30 PM**

M.A.M. SCHOOL OF ENGINEERING

An ISO 9001 : 2008 Certified Institution

Date : .....

09.01.2019

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on **22.01.2019** in your esteemed daily.

Programme	**: Guest Lecture on " CAREER DEVELOPMENT FOR ENGINEERS "**
Date &Time	: 22nd Jan 2019, 02.00 PM – 04.30 PM
Venue	: COLLEGE AUDITORIUM, M.A.M. School of Engineering.
Resource Person	: Dr. S.Thiyagarajan, M.E.., Ph.D... Managing director, GIT, Trichy.

Thanking you,

M.A.M. SCHOOL OF ENGINEERING SIRUGANUR TRICHY-621 105

PRINCIPAL

PRINCIPAL
M.A.M. SCHOOL OF ENGINEERING
SIRIGANUR, TIRUCHIRAPPALLI-621 105

Trichy - Chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105.
0431 - 2910218 / 2910219, Mob : 7708000972
http://www.mamse.co.in Email : principal@mamse.co.in

M.A.M. SCHOOL OF ENGINEERING

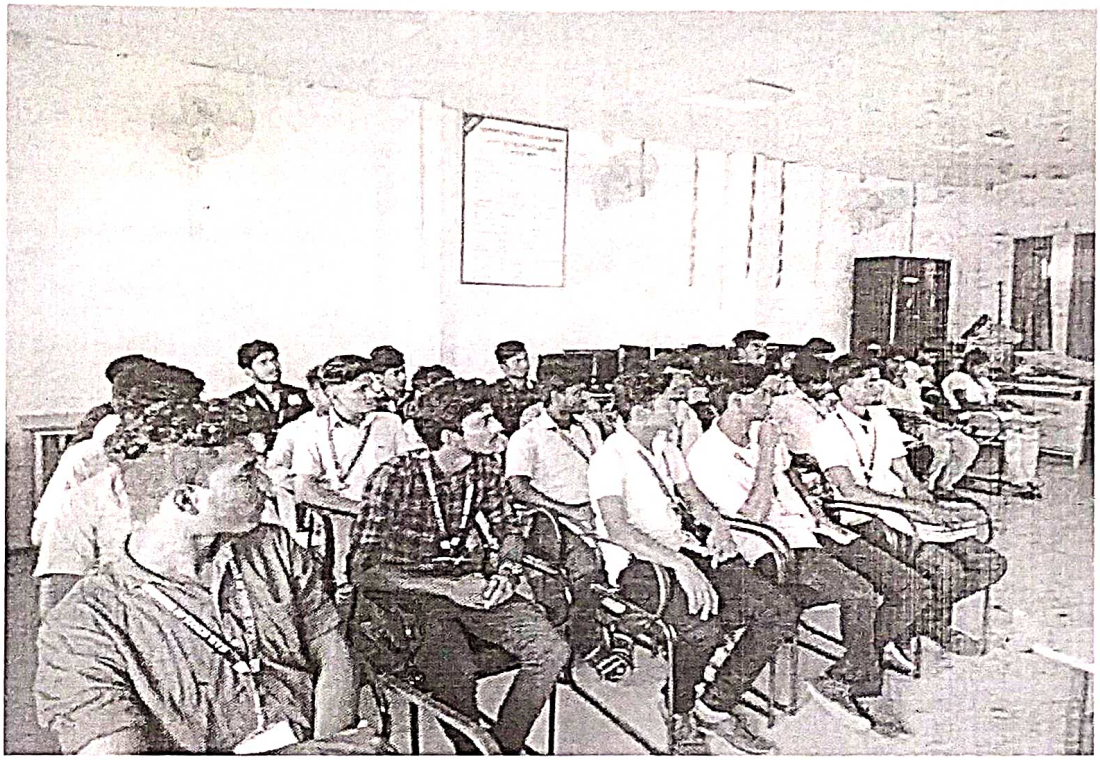
Siruganur, Trichy-621105

Department of Mechatronics Engineering

Guest Lecture on "CAREER DEVELOPMENT FOR ENGINEERS"
(22nd JAN, 2019)

Students of Department of Mechatronics Engineering had the privilege of having another Guest lecture and interactive session with Dr. S.THIYAGARAJAN, Managing director, GIT, Trichy on the topic "CAREER DEVELOPMENT FOR ENGINEERS". Mr. A.SENTHAMARAI KANNAN, Associate Professor/EEE introduced the speaker. The lecture started with the motivational speech to the students. Career Development is the accumulation and cultivation of skills and knowledge that enable a professional to advance or grow in the field of his or her choice. Further the resource person of the program gives a brief notes about the GATE exam and syllabus for the GATE exam. Then he explained the ways of cracking the GATE exam.

The gradute aptitude test in engineering (GATE) is an examination that primarily tests the comprehensive understanding of various undergraduate subjects in engineering and science. Finally he endup with the important of gate scores which will be helpful in central government companies. The event ended with honorarium to the guest and vote of thanks.



Program Co-ordinator

HOD

M.A.M SCHOOL OF ENGINEERING

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC, New Delhi.
Trichy-Chennai Trunk Raod, Siruganur, Tiruchirappalli-621 105.

Name of the Programme: Guest lecture on **"CAREER DEVELOPMENT FOR ENGINEERS"**
Date:22.01.2019

Feedback Report

9. **What is your opinion about the duration of this programme?**
   C- Short B- Adequate C- Long
10. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
11. **How would you rate the Teaching Qualities?**
   C- Very Good B- Good C-Average D-Poor
12. **How would you rate the Materials Presented?**
   C- Very Good B- Good C-Average D-Poor
13. **How much of knowledge you learned today?**
   C- A lot of it B-Satisfactory C- None of it
14. **Did it fulfill your expectation?**
   C- Yes B-Some extent C- No
15. **Planning of this Programme?**
   C- Excellent B-Very Good C- Good D-Satisfactory E-Poor
16. **Any other Comment (if any):**

M.A.M SCHOOL OF ENGINEERING

Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC, New Delhi.
Trichy-Chennai Trunk Raod, Siruganur, Tiruchirappalli-621 105.

Name of the Programme: Guest lecture on **"CAREER DEVELOPMENT FOR ENGINEERS"**
Date:22.01.2019

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D-Satisfactory E-Poor
8. **Any other Comment (if any):**

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY-621105

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

(An ISO 9001: 2008 Certified Institution)

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"ROBOTICS AND ITS INDUSTRIAL IMPACT"

26.12.2018

25/1/19

H.O.D

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

An ISO 9001 : 2008 Certified Institution

Date : .....

26.12.2018

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in "Today's Engagement Column" – Regarding
Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 27.12.2018 in your esteemed daily.

Programme	**: Guest Lecture on "** Robotics & its Industrial Impact **"**
Date & Time	: 27th Dec 2018, 11.00 AM – 12.30 PM
Venue	: SMART CLASS, M.A.M. School of Engineering.
Resource Person	: Mr. A. Ramesh Business Development Engineer, Gateway Finishing School, Salai Road, Tiruchirappalli.

Thanking you,

M.A.M. SCHOOL OF ENGINEERING SIRUGANUR TRICHY-621 105

PRINCIPAL

PRINCIPAL
M.A.M. SCHOOL OF ENGINEERING
SIRIGANUR, TIRUCHIRAPPALLI-621 105.

Trichy - Chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105.
0431 - 2910218 / 2910219, Mob : 7708000972
http://www.mamse.co.in Email : principal@mamse.co.in

M.A.M. SCHOOL OF ENGINEERING

Siruganur, Trichy-621105

Department of Electronics and Communication Engineering

Student Participant List for the Guest Lecture on "Robotics & its Industrial Impact"

(27th December, 2018)

Year/Dept: Second/Mecht

SL NO	Reg. Number	Students Name	SL NO	Reg. Number	Students Name
1	812117115002	Ahmed Rifath.S	15	812117115018	Niyas Ahamed S
2	812117115003	A.Balaji	16	812117115019	Parthiban R
3	812117115004	Balakrishnana T	17	812117115022	Raj Kumar.M
4	812117115005	M.Deepek	18	812117115024	Selvamani A
5	812117115006	Hariharadas G	19	812117115026	Sowndarya L
6	812117115008	Hasan Harun A	20	812117115028	Suriyaprakash S
7	812117115010	Jagatheeswaran.K	21	812117115031	Thiruneelan A
8	812117115011	Mageshwaran N	22	812117115032	Varshini.T
9	812117115012	Mohamed Ashib.N	23	LATERAL ENTRY	Subash Chandran
10	812117115013	Mohamed Fahath S	24	LATERAL ENTRY	Dhanush R M
11	812117115014	Mohamed Fahees Me	25	LATERAL ENTRY	Abdul Basith
12	812117115015	Mohamed Ithyas I	26	LATERAL ENTRY	Praveen
13	812117115016	M.R.Mohamed Hussain	27		
14	812117115017	Mohammed Nowfull.N			

Total No. of Participants: 26

M.A.M. SCHOOL OF ENGINEERING

Siruganur, Trichy-621105

Department of Mechatronics Engineering

Guest Lecture on "Robotics & its Industrial Impacts"
(27th December, 2018)

Despite falling prices and more varied applications, the diffusion of industrial robots is taking place at a slower pace than expected. There are not only technical snags but also social barriers to be overcome — displacement of workers, deskilling of certain operations, changes in work methods. Robots do away mostly with unskilled and hazardous jobs and can lead to dramatic employment cut-backs in individual plants. But so far robotization has affected only a limited number of workplaces in manufacturing. While working conditions may be improved on the whole, reduced manning can contribute to the social isolation of workers. Robotisation can also put a strain on industrial relations unless the workers are properly consulted and their concerns and interests taken fully into account.

Department of Mechatronics had organized a Guest Lecture on "Robotics & its Industrial Impact" by inviting Mr.A.Ramesh, Engineer, Gateway Finishing School, Trichy, to equip our students with these kinds of additional skill sets on 27th December 2018.Students felt that the lecture was so interesting and useful.

Association Coordinator

HOD

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"EMBEDDED SYSTEM"

11.09.2018

H.O.D 11/9/18

PRINCIPAL

10.09.2018

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 11.09.2018 in your esteemed daily.

Programme	**: "EMBEDDED SYSTEMS"**
Date &Time	: 11th SEP'18 at 02.00 PM to 04.00 PM
Venue	: M.A.M. School of Engineering.
Resource Person	: Mr.T.L.KANNAN, Project Manager, ChiArRo Solution and Private Ltd,

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"EMBEDDED SYSTEM"

RESOURCE PERSON	: Mr.T.L.KANNAN Project Manager, ChiArRo Solutions and Private Ltd.
KEY NOTE ADDRESS	: Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.
SPECIAL ADDRESS	:Ms.K.PRIYA Head Of the Department, Department of Mechatronics Engineering
ABOUT PROGRAMME	: Mr.R.NEPPOLIEN Assistant Professor, Department of Mechatronics Engineering
VENUE	: SMART CLASS,MAMSE.
DATE	:11.09.2018
TIME	:02.00 PM to 04.00 PM

GUEST LECTURE
on
"EMBEDDED SYSTEM"

EMBEDDED SYSTEM

An Embedded system is some combination of computer hardware and software, either fixed in capability or programmable, that is designed for a specific function or for specific functions within a larger system. Industrial machines, agricultural and process industry devices, automobiles, medical equipment, cameras, household appliances, airplanes, vending machines and toys as well as mobile devices are all possible locations for an embedded system.

Embedded system hardware (microprocessor-based, microcontroller-based)

Embedded systems can be microprocessor or microcontroller based. In either case, there is an integrated circuit (IC) at the heart of the product that is generally designed to carry out computation for real-time operations. Microprocessors are visually indistinguishable from microcontrollers, but whereas the microprocessor only implements a central processing unit (CPU) and thus requires the addition of other components such as memory chips, microcontrollers are designed as self-contained systems.

Microcontrollers include not only a CPU, but also memory and peripherals such as flash memory, RAM or serial communication ports.

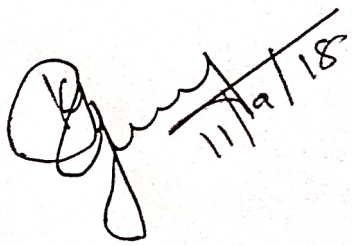
Because microcontrollers tend to implement full (if relatively low computer power) systems, they are frequently put to use on more complex tasks. Microcontrollers are used, for example, in the operations of vehicles, robots, medical devices and home appliances, among others. At the higher end of microcontroller capability, the term system-on-a-chip (SoC) is often used, though there's no exact delineation in terms of RAM, clock speed and so on.

Embedded system software

A typical industrial microcontroller is quite unsophisticated compared to a typical enterprise desktop computer and generally depends on a simpler, less-memory-intensive program environment. The simplest devices run on bare metal and are programmed directly using the chip CPU's machine code language.

Often, however, embedded systems use operating systems or language platforms tailored to embedded use, particularly where real-time operating environments must be served. At higher levels of chip capability, such as those found in SoCs, designers have increasingly decided that the systems are generally fast enough and tasks tolerant of slight variations in reaction time that "near-real-time" approaches are suitable. In these instances, stripped-down versions of the Linux operating system are commonly deployed, though there are also other operating systems that have been pared down to run on embedded systems, including Embedded Java and Windows IoT (formerly Windows Embedded).

Generally, storage of programs and operating systems on embedded devices make use either of flash or rewritable flash memory.



M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

II/ III/MECH/T/EEE Date: 11/09/2018

Name of the Programme: Guest Lecture on "**EMBEDDED SYSTEM**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   (A)- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   (A)-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good (B)- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   (A)- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it (B)-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   (A)- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent (B)-Very Good C- Good D- Satisfactory E-Poor
8. **Any other Comment (if any):**

Very interesting.

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

II/III/MECH/ECE/EEE Date: 11/09/2018

Name of the Programme: Guest Lecture on "EMBEDDED SYSTEM"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- ……..70%..... B- ……20%……. C- ……10%….
2. **Overall, how useful was this programme for you?**
   A-…….60%..... B- ……20%..... C-…….20%....
3. **How would you rate the Teaching Qualities?**
   A-...50%... B- …30%.... C-…10%.... D-…10%....
4. **How would you rate the Materials Presented?**
   A-...60%.... B- …20%... C-…10%..... D-..10%.....
5. **How much of knowledge you learned today?**
   A-…55%..... B- ….40%..... C-…5%.....
6. **Did it fulfill your expectation?**
   A-…75%.... B- …20%..... C-….5%.....
7. **Planning of this Programme?**
   A-…50%... B-…30%…. C-…10%.. D-…5%. E-…5%…
8. **Any other Comment (if any):**

M.A.M.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on "**EMBEDDED SYSTEM**", on 11th September at **SMART CLASS**. The guest speaker was **T.L.KANNAN**, Project Manager,ChiArRo solution and Private Ltd.The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 02.00 P.M and ended around 04.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

11/9/18

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY-621105

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

(An ISO 9001: 2008 Certified Institution)

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

WORKSHOP

On

"EMBEDDED SYSTEM ROBOTICS"

13.8.2018, 14.8.2018 & 16.8.2018

Course co-coordinator

H.O.D

Principal

M.A.M SCHOOL OF ENGINEERING

Siruganur, Tiruchirapalli – 621 105

Common to all branches

CIRCULAR

DATE: 30.07.2018

Dear students,

In our endeavor to encourage our students, we cordially invite all students from all the departments, to participate in Three Days Workshop on **"Embedded System and Robotics"** dated on **13.8.2018, 14.8.2018 and 16.8.2019.** Kindly motivate and encourage yourself to attend in this Workshop. Interested candidates can register your name to Head of the department / Mechatronics on or before **10.08.2018**.

HOD/MCT

PRINCIPAL

Copy to:

1. Department Notice Board
2. Class room Notice Board

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY-621105

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

(An ISO 9001: 2008 Certified Institution)

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

THREE DAYS WORKSHOP

on

"EMBEDDED SYSTEM AND ROBOTICS"

(13.8.2018, 14.8.2018 & 16.8.2018) – 3 Days

RESOURCE PERSON	**: Mr.S.Shriram** **Technical Director** **Trichy Robotics Academy** **Trichy**
KEY NOTE ADDRESS	**: Dr. P.Ranjith Kumar** **Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**: Mr.M.Chandrasekar** **Head of the Department,** **Department of Mechatronics** **MAMSE, Trichy.**
ABOUT PROGRAMME	**: Mr.Karthikeyan** **Assistant Professor,** **Department of Mechatronics.**
VENUE	**: Mechatronics Lab**
DATE	**: 13-Aug-2018, 14- Aug-2018 &** **16-Aug-2018(3Days)**
TIME	**: 9.00 AM to 4.30 PM**

M.A.M. SCHOOL OF ENGINEERING

Siruganur, Trichy-621105

Department of Mechatronics Engineering

Student's Registration Name list for the Three Days Workshop on "Embedded System and Robotics"

S.No	Register No.	Name	Year	Dept
1	812116115001	Abinas Kumar	Third	Mechatronics
2	812116115002	Arun Kumar	Third	Mechatronics
3	812116115003	Balamurugan	Third	Mechatronics
4	812116115004	Elangathir	Third	Mechatronics
5	812116115005	Gowsalya	Third	Mechatronics
6	812116115006	Gunaseelan	Third	Mechatronics
7	812116115007	Manisha	Third	Mechatronics
8	812116115008	Mugesh Kumar	Third	Mechatronics
9	812116115009	Muralitharan	Third	Mechatronics
10	812116115010	Nitheesh	Third	Mechatronics
11	812116115011	Prasanth	Third	Mechatronics
12	812116115012	Ramachandran	Third	Mechatronics
13	812116115014	Sankar	Third	Mechatronics
14	812116115015	Thamilselvan	Third	Mechatronics
15	812116115016	Vaitheeswari	Third	Mechatronics
16	812116115017	Vijaya Kumar	Third	Mechatronics
17	812116115018	Vineeth Kumar	Third	Mechatronics
18	812116114010	Barathiraja M	Third	Mechanical
19	812116114024	Moorthi M	Third	Mechanical
20	812116114069	Yukesh K	Third	Mechanical
21	812116114065	Vignesh K	Third	Mechanical
22	812116114053	Soorya Pragash R	Third	Mechanical

23	812116114050	Selva A	Third	Mechanical
24	812118115011	Jenithkumar B	First	Mechatronics
25	812118115012	Laluprashanth A	First	Mechatronics
26	812118115013	Manoj Kumar P	First	Mechatronics
27	812118115014	Mohamed Shahim M	First	Mechatronics
28	812118115007	Balaji M	First	Mechatronics
29	812118115018	Rajeshkannan R	First	Mechatronics
30	812118115019	Rajkumar R	First	Mechatronics

Course Co-Ordinator

HOD

Principal

M.A.M. SCHOOL OF ENGINEERING

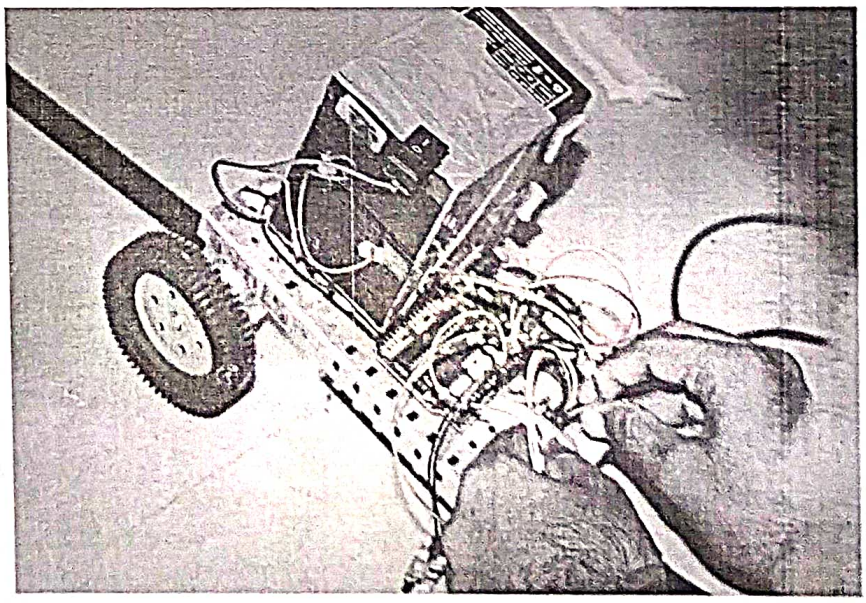
Siruganur, Trichy-621105

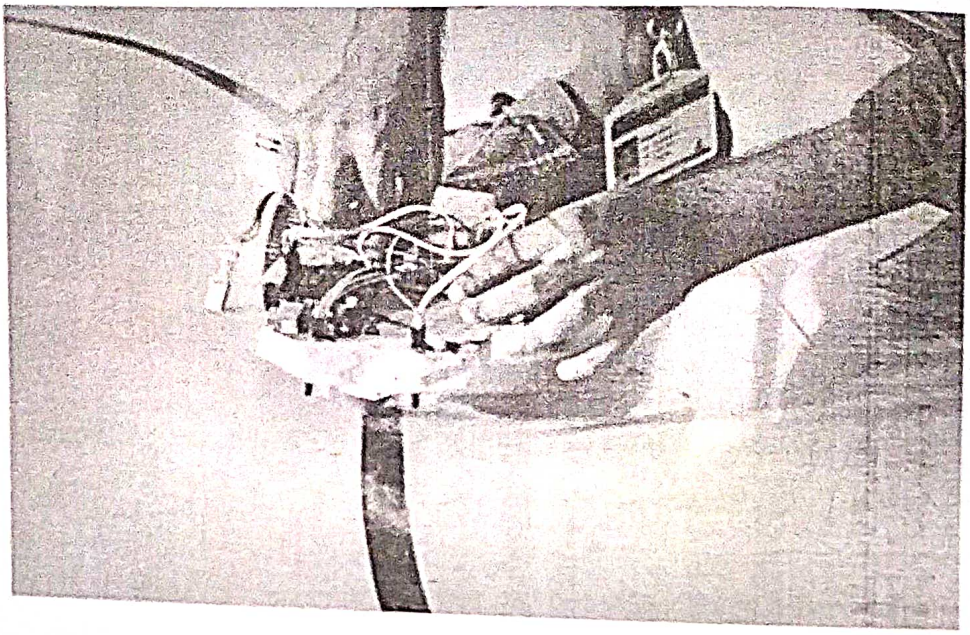
Department of Mechatronics Engineering

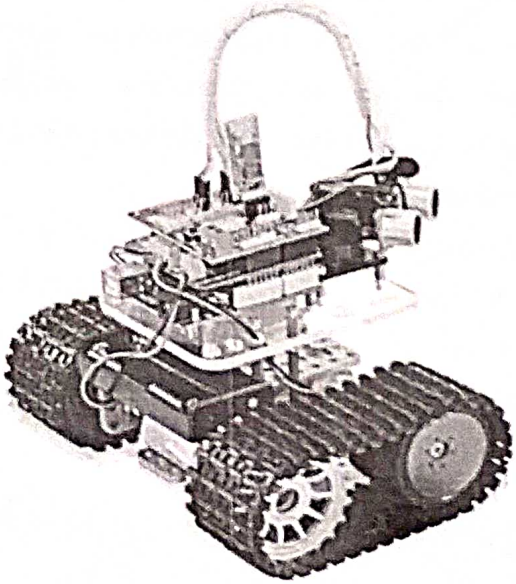
Three Days Workshop on "Embedded System and Robotics"
(13-8-2018, 14-8-2018 & 16-8-2018) – 3 Days

The above Workshop was generally about the of "Embedded System and Robotics" machine design in industrial and also the working environment aspects. Embedded Systems are inseparable part of our life. Whether we are at home or office or on the move, we are always surrounded by embedded systems. Starting from home appliances like TV, washing machine and systems like printer and elevator in workplace to the automobiles and automatic traffic control system are all examples of embedded systems. All kinds of magazines and journals regularly dish out details about latest technologies, new devices; fast applications which make us believe that our basic survival is controlled by these embedded products.Embedded system is a combination of Hardware and Software Design to meet a specific need with performance in given time frame

Department of Mechatronics had organized a Workshop on "Embedded System and Robotics" by inviting Mr.Shriram from trichy Robotics Academy, Trichy to equip our students with these kinds of additional skill sets from 13.8.2018 to 16.8.2018 (3days).Students felt that the value added course was so interesting and useful.







Program Coordinator 23/8/19

HOD 23/8/19

Principal

M.A.M SCHOOL OF ENGINEERING

(Approved by AICTE / Affiliated to Anna University / Accredited by NAAC)
Siruganur, Tiruchirappalli – 621 105

Certificate of Participation

This is to certify that Mr./Ms. _____ of_____ year_____ department has participated Three days Workshop on "Embedded System and Robotics" Organized by the Department of Mechatronics Engineering, M.A.M School of Engineering association with The Institution of Engineers (India)-Tiruchirappalli Local Centre (Students Chapter of Mechatronics Department 621105/MAMSE/MC) held from 13th , 14th and 16th August 2018

Course Coordinator | HOD/Mechatronics | Principal | Correspondent

M.A.M. SCHOOL OF ENGINEERING

(ACCREDITED BY NAAC)

2017-2022

(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai.)

Siruganur, Trichy.

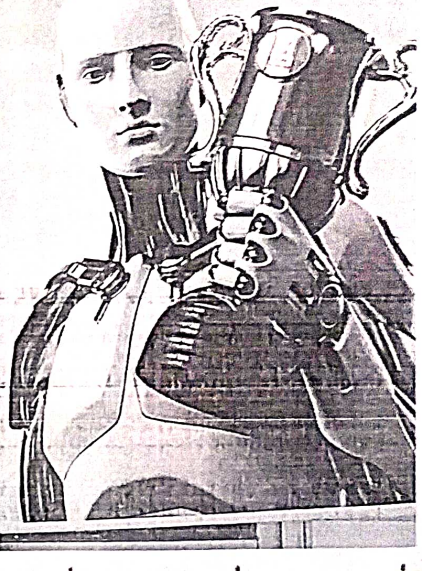
Workshop on Embedded system and Robotics

S. SHRIRAM

Technical Director,

Trichy Robotics Academy,

Tiruchirapalli.



Date: 13.08.2018 ,14.08.2018,16.08.2018

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"INDUSTRY 4.0 USING IOT"

31.07.2018

H.O.D

PRINCIPAL

27.07.2018

Dr. P. Ranjith Kumar, M.E., Ph.D.,
Principal

To

The Editor,
The Hindu,
Tiruchirappalli – 620017.

Subject: Request to publish in **"Today's Engagement Column"** – Regarding

Greetings from M.A.M. School of Engineering

Kindly arrange to publish the following in "Today's engagement column" on 31.07.2018 in your esteemed daily.

Programme	: **"INDUSTRY 4.0 USING IOT"**
Date &Time	: 31st JULY'18 at 10.00 AM to 12.00 PM
Venue	: Seminar Hall , M.A.M. School of Engineering
Resource Person	: Harish Ravi, Project Manager, Technologies Global Pvt.Ltd.

Thanking you,

Warm regards,

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

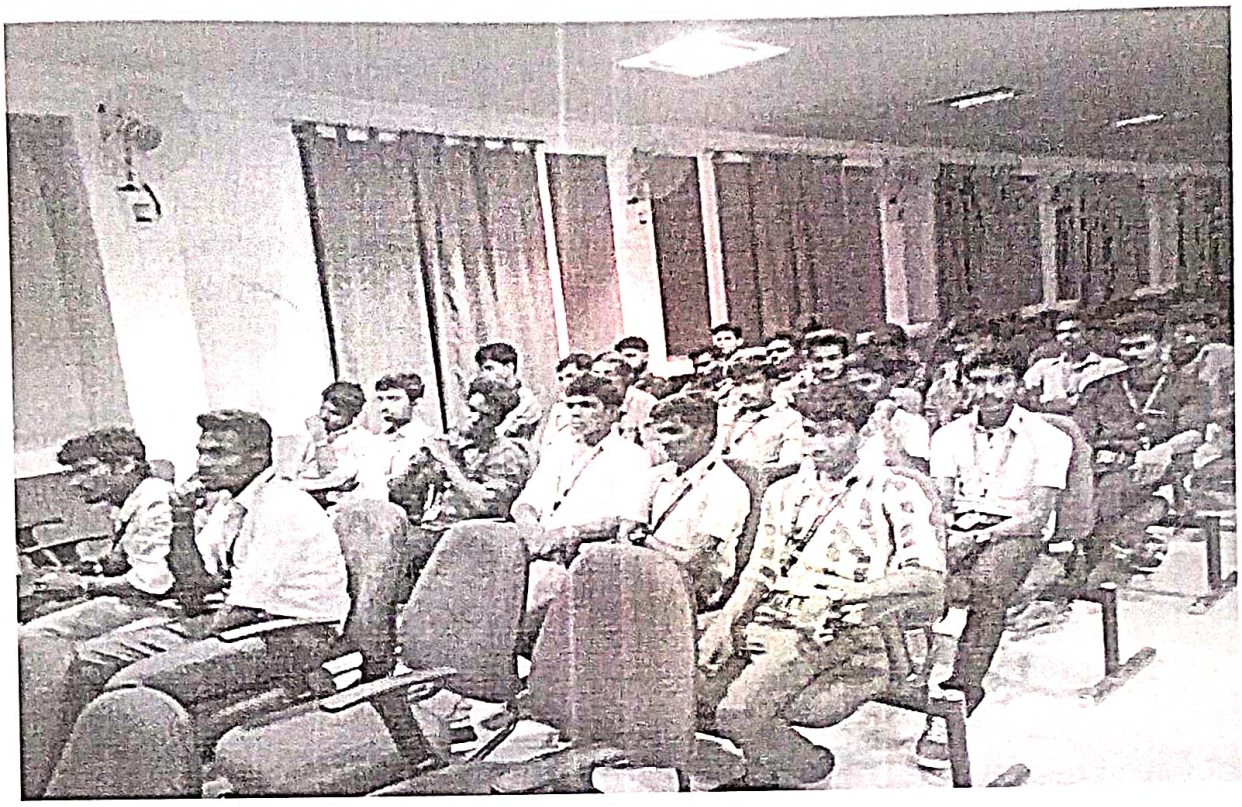
"INDUSTRY 4.0 USING IOT"

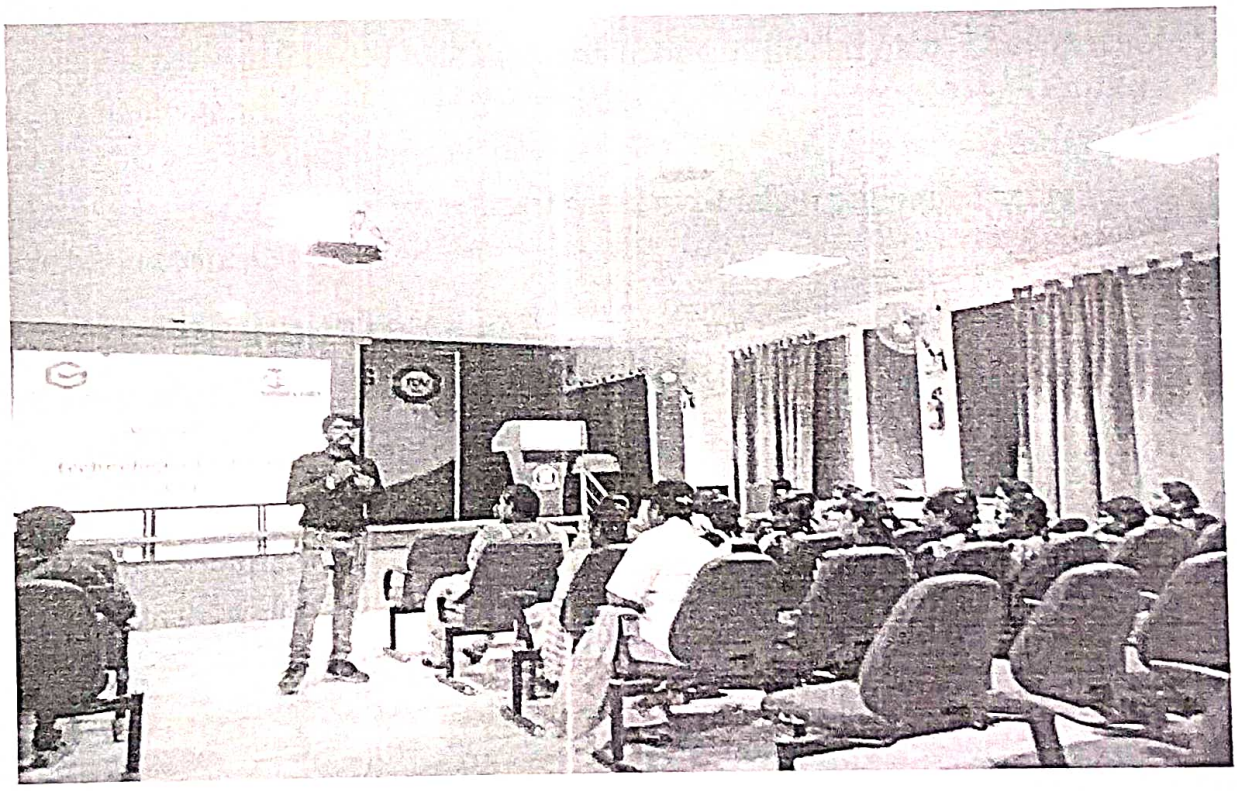
RESOURCE PERSON	**: HARISH RAVI,** **Project Manager,** **Technologies Global Pvt.Ltd**
KEY NOTE ADDRESS	**: Dr. P.RANJITH KUMAR** **Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Ms.K.PRIYA** **Head Of the Department,** **Department of Mechatronics Engineering**
ABOUT PROGRAMME	**:Mr.D.Rajkumar** **Assistant Professor,** **Department of Mechatronics Engineering**
VENUE	**:SEMINAR HALL, MAMSE.**
DATE	**:31.07.2018**
TIME	**:10.00 AM to 12.00 PM**

GUEST LECTURE

on

"INDUSTRY 4.0 USING IIOT"





INDUSTRIAL INTERNET OF THINGS

Internet of Things no more needs any introduction. When these IoT capabilities are implemented in the Industrial and Manufacturing space, it becomes **Industrial IoT**. This technology is an amalgamation of different technologies like machine learning, big data, sensor data, M2M communication, and automation that have existed in the industrial backdrop for many years.

Industrial Internet makes a connected enterprise by merging the information and operational department of the industry. Thus improving visibility, boosting operational efficiency, increases productivity and reduces the complexity of process in the industry. Industrial IoT is a transformative manufacturing strategy that helps to improve quality, safety, productivity in an industry.

EVOLUTION OF IIOT

Industry 1.0 (1784)

Industry 2.0 (1870)

Industry 3.0 (1969)

Industry 4.0 (2010)

Industry 4.0 (2010)

The vision of connected enterprise through interconnecting industrial assets through the internet was fulfilled with the introduction of Industry 4.0. The smart devices communicate with each other and create valuable insights. IIoT brought with it the advantages of asset optimization, production integration, smart monitoring, remote diagnosis, intelligent decision making and most importantly the feature of Predictive Maintenance.

ADVANTAGES OF INDUSTRIAL IOT

Industrial Internet of Things brings along lot of advantages some of them are listed below:

- Predictive & Proactive maintenance
- Real-Time Monitoring
- Asset/Resource Optimization
- Remote Diagnosis

DRIVERS OF IIOT

Technology of Smart Sensors, Robotics & Automation, Augmented/Virtual reality, Big Data Analytics, Cloud Integration, Software applications, Mobile, Low power Hardware devices and Scalability of IPv6-3.4X 10^38 IP address, etc.is a major driver for the Industrial Internet.

Customer Behavior: The edge that IIoT gives to enterprises over their competitor helps them achieve better customer satisfaction and retention through value addition.

Macro-Economic Drivers: Government policies like Industry 4.0, Smart Factories, Make In India, Make In China 2025 & Smart Cities, Japan's Industrial Value Chain Initiative Foum, Support of Green initiatives, Rising Energy & crude oil prices, Favorable FDI policies, Policies by regulatory bodies, etc. works totally in favour of the IIoT evolution.

INDUSTRIAL INTERNET OF THINGS: THE MAGIC WAND FOR THE ECONOMY

The endless unfolding of new technologies have added up to a huge list of the "Next Big Thing". However not every evolving technology has the potential to break through the business and social landscape. McKinsey Global Institute has identified some of the important technologies that can create economic transformations. One of them in the list is IIoT. McKinsey estimated that IoT will have a potential economic impact of up to $6.2 trillion by 2025. It also has the potential to drive productivity across $36 trillion and operating costs across multiple industries, including manufacturing, health care, and mining.

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

III/IV/MECHT Date: 31/07/2018

Name of the Programme: Guest Lecture on "**INDUSTRY 4.0 USING IOT**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor
8. **Any other Comment (if any):**

learn more about 4.0 using IOT.

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

III/IV/MECHT Date: 31/07/2018

Name of the Programme: Guest Lecture on "**INDUSTRY 4.0 USING IOT**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- ……..50%..... B- ……40%……. C- ……10%….
2. **Overall, how useful was this programme for you?**
   A-…….60%..... B- ……20%..... C-…….20%....
3. **How would you rate the Teaching Qualities?**
   A-…50%... B- …30%.... C-…10%.... D-…10%....
4. **How would you rate the Materials Presented?**
   A-...60%.... B- …20%... C-…10%..... D-..10%.....
5. **How much of knowledge you learned today?**
   A-…85%..... B- ……10%..... C-…5%.....
6. **Did it fulfill your expectation?**
   A-…75%.... B- …20%..... C-….5%.....
7. **Planning of this Programme?**
   A-…50%... B-…30%…. C-…10%.. D-…5%. E-…5%…
8. **Any other Comment (if any):**

M.A.M.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on **"INDUSTRY 4.0 USING IOT"**, on 31st July at Seminar Hall. The guest speaker was **HARISH RAVI**, Project Manager, Technologies Global Pvt.Ltd.The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 10.00 A.M and ended around 12.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"NEW SKILL FOR ENGINEERING STUDENTS"

24.07.2018

for H.O.D

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

DEPARTMENT OF MECHATRONICS ENGINEERING

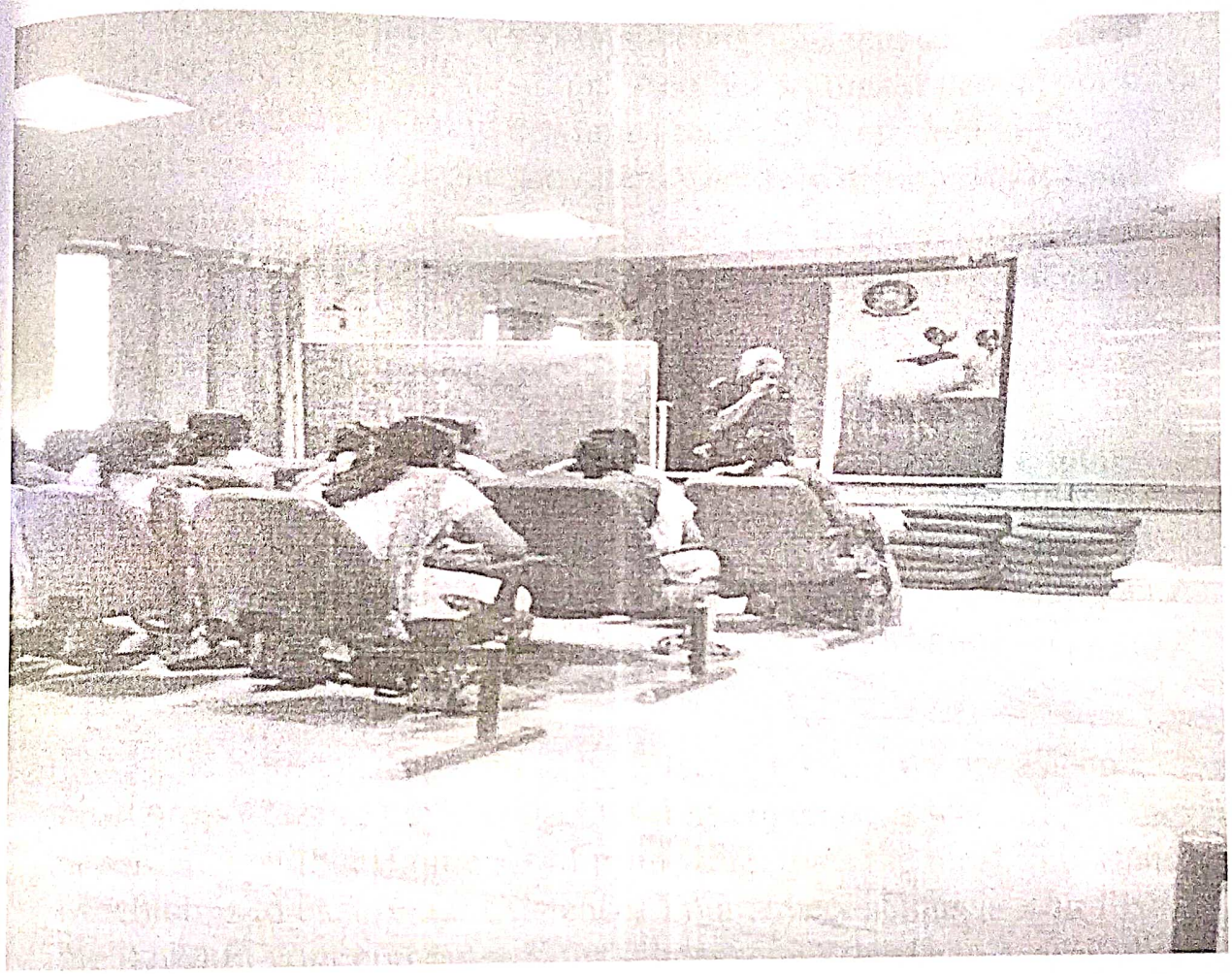
GUEST LECTURE

on

"NEW SKILL FOR ENGINEERING STUDENTS"

RESOURCE PERSON	: Dr.ABDUL RAHMAN, Sai Ram Engineering College, Chennai.
KEY NOTE ADDRESS	: Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.
SPECIAL ADDRESS	:Ms.K.PRIYA Head Of the Department, Department of Mechatronics Engineering
ABOUT PROGRAMME	:Mr.D.Rajkumar Assistant Professor, Department of Mechatronics Engineering
VENUE	:SEMINAR HALL, MAMSE.
DATE	:24.07.2018
TIME	:10.45 AM to 12.45 PM

GUEST LECTURE
on
"NEW SKILL FOR ENGINEERING STUDENTS"



THE CONSCIOUS MIND

The conscious mind represents only 10 per cent of the total capacity of the human brain and is essentially whatever you are currently aware of and focused upon. We can only ever hold seven items at any one time in short-term memory. The conscious mind can therefore only ever process a maximum of nine items at any one time.

The conscious mind sleeps when the person sleeps, it is more logical and is focused in terms of activity on the left hand side of the brain for the majority of people. If you ask most people to define what the conscious mind does you'll get varying answers. Some say

what distinguishes it from the subconscious is awareness. But to say the subconscious is unaware is plain wrong. It has been well documented that you can be influenced by your surroundings or what people say even when your conscious mind is totally out of it, such as when you're under anesthetic or asleep.

In those situations it's your subconscious that stays aware and performs the necessary functions. Another argument people put forth is that the conscious mind is where you do all your thinking and logical reasoning. But that too doesn't entirely distinguish it from your subconscious or unconscious. Your unconscious minds are the storage place of all your memories, emotions and habits and are in fact very good at reasoning and logic.

SUB CONSCIOUS MIND

The Sub-conscious mind represents 90 per cent of the total capacity of the human brain. It is focused on the right hand side of the brain, and is associated with the autonomic nervous system Heart-rate Homeostasis (temperature control) Memories Habitual behaviors some propose that the unconscious mind stores all possible experiences.

The Sub-conscious mind is still awake when we are asleep. NLP proposes that the unconscious mind operates always in accordance with a simple set of prime directives the most important of which is to ensure our existence. Your subconscious is a bit like the RAM in your computer.Your subconscious works in a similar way to computer RAM. It holds short term memory and current daily used programs.

M.A.M.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on **"NEW SKILL FOR ENGINEERING STUDENTS"**, on 24th July at Seminar Hall. The guest speaker was Dr.ABDUL RAHMAN, Professor, Sai Ram Engineering College, Chennai.The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 10.45 A.M and ended around 12.45 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

24/7/18

HOD/MCT

M.A.M SCHOOL OF ENGINEERING
(An ISO 9001:2008 Certified Institution)
Siruganur, Tiruchirappalli – 621105.

II/III/MECHT Date: 24/07/2018

Name of the Programme: Guest Lecture on "**NEW SKILL FOR ENGINEERING STUDENTS**"

Feedback Report

1. **What is your opinion about the duration of this programme?**
   A- Short B- Adequate C- Long
2. **Overall, how useful was this programme for you?**
   A-Very much B- To Some Extent C-Not useful
3. **How would you rate the Teaching Qualities?**
   A- Very Good B- Good C-Average D-Poor
4. **How would you rate the Materials Presented?**
   A- Very Good B- Good C-Average D-Poor
5. **How much of knowledge you learned today?**
   A- A lot of it B-Satisfactory C- None of it
6. **Did it fulfill your expectation?**
   A- Yes B-Some extent C- No
7. **Planning of this Programme?**
   A- Excellent B-Very Good C- Good D- Satisfactory E-Poor
8. **Any other Comment (if any):**
   Very informative lecture

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Chennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"INDUSTRIAL AUTOMATION AND ROBOTICS"

17.07.2018

H.O.D

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

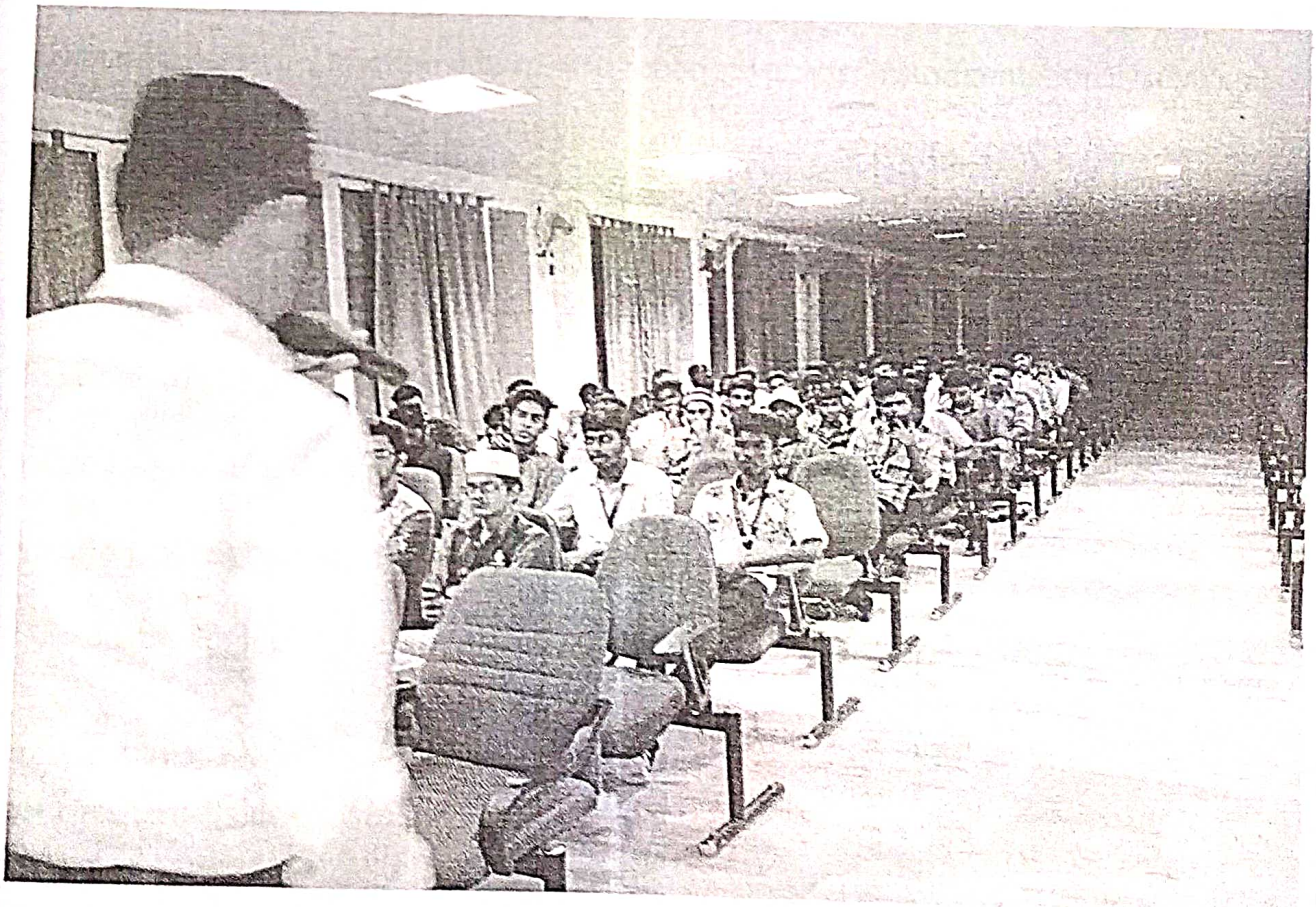
DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"INDUSTRIAL AUTOMATION AND ROBOTICS"

RESOURCE PERSON	**: Mr.K.UPENDRAN** **AGIIT,TRICHY**
KEY NOTE ADDRESS	**: Dr. P.RANJITH KUMAR** **Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Ms.K.PRIYA** **Head Of the Department,** **Department of Mechatronics Engineering**
ABOUT PROGRAMME	**:Mr.D.Rajkumar** **Assistant Professor,** **Department of Mechatronics Engineering**
VENUE	**:SEMINAR HALL,** **MAMSE**
DATE	**:17.07.2018**
TIME	**:10.30 AM to 12.30 PM**



GUEST LECTURE
on
"INDUSTRIAL AUTOMATION AND ROBOTICS"

The Industrial Automation and Robotic Systems programme equips graduates with the necessary skills to troubleshoot, maintain, install and design automated production systems required for high-tech manufacturing industries. There is a large demand for such graduates, since the trend over the last decade is to move labour intensive production operations to lower wage economies. This trend has ultimately meant that remaining manufacturing operations within Ireland demand highly automated production systems and require highly skilled graduates to maintain them. This three year Bachelor of Engineering Level 7 programme covers all the technologies used in modern manufacturing Automation and Robotic systems. It covers a wide range of areas including electrical and electronic engineering, mechanical systems, motion control and robotic systems, instrumentation systems, as well as PLC and SCADA programming.

The programme contains approximately 50% theoretical content with 50% dedicated to practical hands-on learning

Features of the programme

- Hands-on course with a high practical element
- Variety of engineering technologies studied
- Graduates are highly employable across a variety of industries
- Enables progression to Level 8 programmes within LIT or other colleges/universities.

M.A.M.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on **"INDUSTRIAL AUTOMATION AND ROBOTICS"**, on 17th July at Seminar Hall. The guest speaker was Mr.K.UPENDRAN,APPLICATION ENGINEER,AGIIT,TRICHY. The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 10.30 A.M and ended around 12.30 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

17/7/18

M.A.M. SCHOOL OF ENGINEERING

ISO 9001 : 2008 Certified Institution
Approved by AICTE, New Delhi. Affiliated to Anna University, Coennai
Trichy - chennai Trunk Road, Siruganur, Tiruchirappalli - 621 105, India

DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

On

"AUTOCADD AND E-CADD"

11.07.2018

11/7/18

H.O.D

PRINCIPAL

M.A.M. SCHOOL OF ENGINEERING

SIRUGANUR, TRICHY

(ACCREDITED BY NAAC)

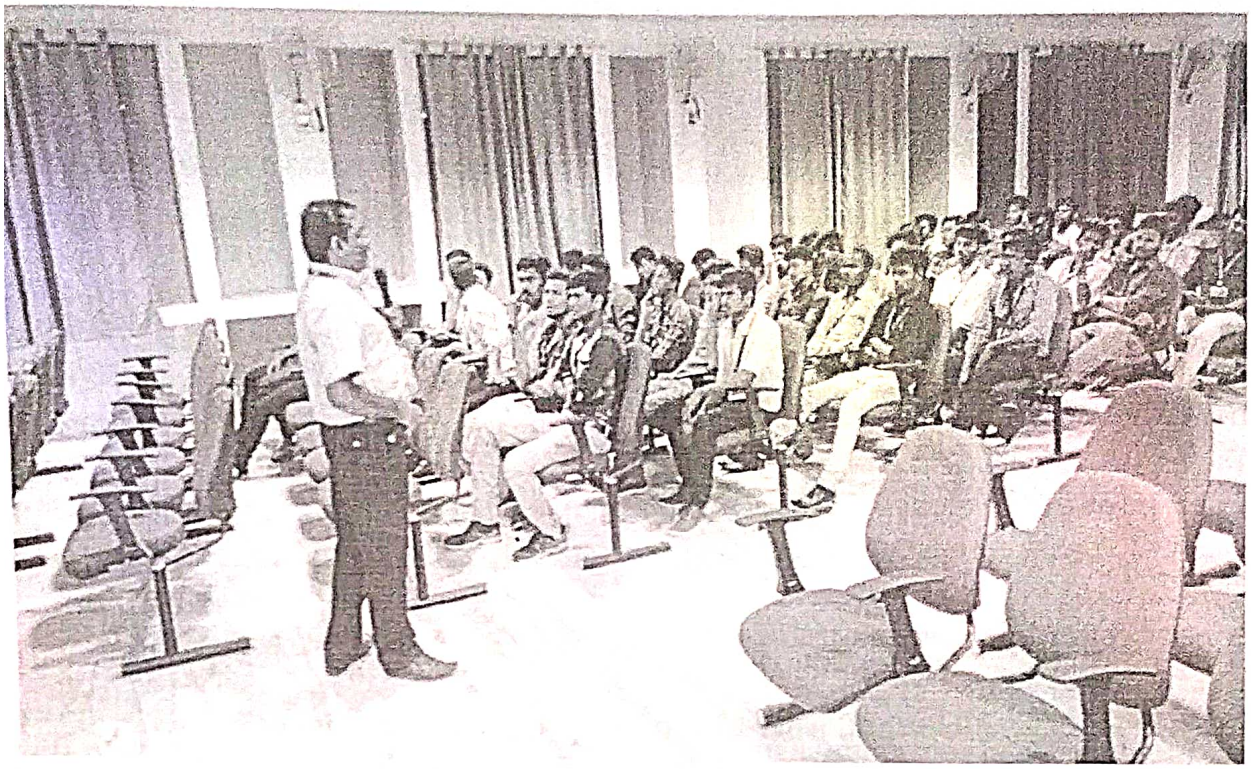
DEPARTMENT OF MECHATRONICS ENGINEERING

GUEST LECTURE

on

"AUTOCADD AND E-CAD"

RESOURCE PERSON	**: Mr.Bharanidharan & Mr.Shridar CADD SCHOOL PVT LTD**
KEY NOTE ADDRESS	**:Dr. P.RANJITH KUMAR Principal, MAMSE, Trichy.**
SPECIAL ADDRESS	**:Ms.K.PRIYA Head Of the Department, Department of Mechatronics Engineering**
ABOUT PROGRAMME	**:Mr.D.Rajkumar Assistant Professor, Department of Mechatronics Engineering**
VENUE	**:SEMINAR HALL, MAMSE**
DATE	**:11.07.2018**
TIME	**:9.30 AM to 05.00 PM**



GUEST LECTURE
on
"AUTOCADD AND E-CADD"

AutoCAD is a commercial computer-aided design (CAD) and drafting software application. AutoCAD is used across a wide range of industries, by architects, project managers, engineers, graphic designers, and many other professionals.

AutoCAD supports a number of APIs for customization and automation. These include Auto LISP, Visual LISP, VBA, .NET and ObjectARX. ObjectARX is a C++ class library, which was also the base for:

- products extending AutoCAD functionality to specific fields
- creating products such as AutoCAD Architecture, AutoCAD Electrical, AutoCAD Civil 3D
- third-party AutoCAD-based application

There are a large number of AutoCAD plugins (add-on applications) available on the application store Autodesk Exchange Apps. AutoCAD's DXF, drawing exchange format, allows importing and exporting drawing information.

AutoCAD LT

AutoCAD LT is the lower cost version of AutoCAD, with reduced capabilities, first released in November 1993. Autodesk developed AutoCAD LT to have an entry-level CAD package to compete in the lower price level. Priced at $495, it became the first AutoCAD product priced below $1000. It was sold directly by Autodesk and in computer stores unlike the full version of AutoCAD, which must be purchased from official Autodesk dealers

AutoCAD 360

Formerly marketed as AutoCAD WS, AutoCAD 360 is an account-based mobile and web application enabling registered users to view, edit, and share AutoCAD files via mobile device and web using a limited AutoCAD feature set and using cloud-stored drawing files. The program, which is an evolution and combination of previous products. 360 include new features such as a "Smart Pen" mode and linking to third-party cloud-based storage such as Drop box. Having evolved from Flash-based software, AutoCAD 360 uses HTML5 browser technology available in newer browsers including Firefox and Google Chrome.

M.A.M.SCHOOL OF ENGINEERING,TRICHY
DEPARTMENT OF MECHATRONICS ENGINEERING

A REPORT ON GUEST LECTURE

The Department of Mechatronics Engineering organized a Guest Lecture on **"AUTOCADD AND E-CADD"**, on 11th July at Seminar Hall. The guest speaker was Mr.Bharanidharan,& Mr.Shridar,CADD SCHOOL CO-ORPORATION PVT LTD. The event started with a welcome address delivered by the Head of the Department Mrs.Priya. The guest lecture was preceded by a short talk by the Principal Dr.P.Ranjith Kumar. In his talk, he emphasized the importance of research for the developments of engineering applications with specific examples. The lecture started around 9.30 A.M and ended around 05.00 P.M. The lecture was received with admiration by the students and they also found the slides appropriate. The event ended with honorarium to the guest and vote of thanks.

11/7/18