

## Initiatives related to industry interaction

Department of CSE has continuous interaction with various software and research organizations at several levels in order to continuously improve the teaching learning process, fill gaps in the curriculum, etc.

### Industry supported laboratories

- The department of CSE has MOU with CISCO and established a Laboratory to conduct various certification courses like IT Essentials and CCNA in our college.
- The Department has a MOU with Oracle academy to conduct various certification courses like Java Fundamentals & Java Programming skills and Database Design & Programming with SQL.

SNO	Company Name	Date	Time Period
1	CISCO	26.08.2016	3 years
2	Oracle Academy	15.10.2015	6 years

Table B.2.2.4.1 MOU's with Industries

The following table shows the Training activities by CISCO and ORACLE in last two academic years

2017-2018

Company	Dates From	Dates To	No of students Trained	Type of Lab	Objective	PO's Met (Effectiveness)
CISCO Academy	21.1.2018	30.4.2018	120	CPA: Programming Essentials in C++	Train students to learn the basics of programming in the C++ language, and the fundamental notions and techniques it uses.	PO1,PO2,PO3,PO5,PO9,PO10,PO12, PSO1,PSO2
Oracle Academy	5.02.2018	30.4.2018	120	Java Fundamentals & Java Programming skills.	Train students in Java Fundamentals and helps to advance Java programming skills. Students will design object-oriented applications with Java and will create Java programs using hands-on, engaging activities.	PO1,PO2,PO3,PO5,PO9,PO10,PO12, PSO1,PSO2

Oracle Academy	8.01.2018	30.4.2018	120	Database design & Programming with SQL	Train students to analyze complex business scenarios, design and create data models, and create databases using SQL. Oracle SQL Developer utilized to provide practical, hands-on, engaging activities.	PO1,PO2,PO3,PO5,PO9,PO10,PO12, PSO1,PSO2
CISCO Academy	9.10.2017	30.4.2018	80	IT Essentials	Train students to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software.	PO1,PO2,PO3,PO5,PO9,PO10,PO12, PSO1,PSO2

Table: List of Training activities by CISCO and ORACLE for AY 2017-2018

2016-2017

Company	Dates From	Dates To	No of students Trained	Type of Lab	Objective	PO's Met (Effectiveness)
Oracle Academy	20.1.2017	31.3.2017	65	Database design & Programming with SQL	Train students to analyze complex business scenarios, design and create data models, and create databases using SQL. Oracle SQL Developer utilized to provide practical, hands-on, engaging activities.	PO1,PO2,PO3,PO5,PO9,PO10,PO12, PSO1,PSO2
CISCO Academy	26.9.2016	18.2.2017	80	IT Essentials,	Train students to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot	PO1,PO2,PO3,PO5,PO9,PO10,PO12, PSO1,PSO2

					using systemtools and diagnostic software.	
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Table: List of Training activities by CISCO and ORACLE for AY 2017-2018

### Industry involvement partial delivery of any regular courses for students

- Matrusri Engineering College, affiliated to Osmania University, follows the University approved curriculum. The curriculum is revised by Board of Studies, Osmania University, and every four years keeping in view the changing trends or technology.
- The Board of studies also comprises of industry experts as special invitees. Any changes in the technology and based on the current requirements of the industry, the industry experts suggest the changes/addition in the curriculum to BOS.
- Based on the recommendations of the industry experts the BOS will modify the curriculum.
- The experts from the Industry & Research institutes are also invited to deliver the part of the contents of the regular courses.

The following Table shows the Guest Lectures/Seminars/workshops conducted in last three years

2017-18

S.No.	Name of the Program	Date	Resource Person with Designation	Relevance to POs, PSOs
1	Seminar on "Software Testing Methodologies"	15/03/2018	Mr.SatyanarayanaPerupu, Test Manager, Test Manager, Virtusa	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
2	One day workshop on "Deep Learning"	12/03/2018	Mr.Subba Reddy oota, Data Scientist, Tera Data	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
3	One day workshop "DevOpps"	10/01/2018	Mr.K.Sulaxman, Project Manager, Accenture	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
4	One day workshop "Content Management Systems"	30/10/2017	Mr.Anurag, CEO, Prathva Solutions	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
5	Seminar on "Android Application Development"	16/10/2017	Mr Manish, Developer , Google	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
6	One day workshop on "Real Time Embedded Systems"	07/09/2017	Mr.G.B.R.KapilDev Reddy, Project Manager, AVIN Systems	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2

7	One day workshop on "Data Science using R"	31/08/2017	Dr.A.V.KrishnaPrasad,CSI Member	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO11, PO12, PSO1, PSO2
8	Guest Lecture on "Deep Learning"	27/07/2017	Mr.R.KrishnaPradheer, Tera Data	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
9	Guest Lecture on "DevOpps"	14/07/2017	Mr.SaratAddanki, Vice President, Prolifix	PO1, PO2, PO3, PO4, PO5, PO9,PO11, PO12, PSO1, PSO2

Table: Guest Lectures/Seminars/workshops for AY 2017-18

2016-17

S.No.	Name of the Program	Date	Resource Person with Designation	Relevance to POs, PSOs
1	Two day workshop on "Ethical hacking and Cyber Security"	24/3/17 to 25/3/17	Mr.SandeepMudalkar,CEO,Sytech labs	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
2	Seminar on "Awareness program for studying on higher education in US & Australia"	23/3/17	Krishna Mulugu, Managing Director, Bolster Solutions	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
3	One day workshop on "Machine Learning"	18/3/17	Mr. Rajeev RanjanKumar,CSI Secretary	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO12, PSO1, PSO2
4	Seminar on "Data Science Using R"	25/2/17	P.V.N BalaramaMurthy,JyothiSnjeeva Man, Skill Fest , TeleUniv.Ltd	PO1, PO2, PO3, PO4, PO5, PO9,PO11, PO12, PSO1, PSO2
5	Workshop on "Internet of Things"	25/2/17	VinayPatnakar,IIT Bombay	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12, PSO1, PSO2
6	Seminar on "Trends in Artificial Intelligence"	24/02/17	Sainath Gupta, Research Scholar,IIT	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
7	Workshop on "Discrete Mathematics"	24/2/17	ChaitanyaDeshpande,CRT	PO1, PO2, PO3, PO4, PO5, PO6,

	and its applications ”			PO9, PO12, PSO1, PSO2
8	Guest Lecture on “Latest trends in networking and security”	17/2/17	Mr.Sridharkatta, Golars Network	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
9	Guest Lecture on “Motivating students towards professional education”	22/3/17	Mr.G.K.Karthik, Co Founder, YGK Academy	PO1, PO2, PO3, PO4, PO5, PO6, PO9, PO12, PSO1, PSO2
10	Two day workshop on “Machine Learning through Python”	5/8/2016 to 6/08/2016	Subba Reddy Oota, Data Scientist, Teradata	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12, PSO1, PSO2,

Table: Guest Lectures/Seminars/workshops for AY 2016-17

2015-16

S.No.	Name of the Program	Date	Resource Person with Designation	Relevance to POs, PSOs
1	One day workshop on “Automotive Networks”	3/3/2016	Mr.G.B.R.Kapi 1 Dev Reddy, Project Developer, AVIN Systems, Bangalore	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2.
2	One day workshop on “Cloud Computing”	8/9/2015	Mr.AbdulBhari, Freelancer	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2.
3	Guest Lecture on “Internet of Things”	03/9/15	MrPankajDiwan, Founder, Idea Labs	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12, PSO1, PSO2.
4	Workshop on “Emerging Technologies in Real Time Embedded Systems”	27/8/15 to 28/8/15	MrAketiRajakrishna, Developer, Juniper Networks	PO1, PO2, PO3, PO4, PO5, PO9, PO11, PO12, PSO1, PSO2
5	Seminar on “Internet Security issues”	4/8/15	MrSatyaPriyaRavula, Developer, Cognizant	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2
6	Seminar on “ Big Data”	25/2/2016	DrD.V.Ramana, I3Indya	PO1, PO2, PO3, PO4, PO5, PO9, PO12, PSO1, PSO2.

Table: Guest Lectures/Seminars/workshops for AY 2015-16

### Impact Analysis of industry institute interaction and actions taken there of

The following Table shows the Impact analysis of industry supported laboratories in last three years

2017-18

<b>SNO</b>	<b>Company</b>	<b>Type of Lab</b>	<b>Impact Analysis</b>
1	CISCO Academy	CPA: Programming Essentials in C++	Students have been trained in basics of programming in the C++ language which helps in developing projects
2	Oracle Academy	Java Fundamentals & Java Programming skills.	Students have been trained in Java Fundamentals and helps to advance Java programming skills which helps for them in developing object-oriented applications with Java.
3	Oracle Academy	Database design & Programming with SQL	Students have been trained to analyze complex business scenarios, design and create data models, and create databases using SQL which helps in developing various database applications.
4	CISCO Academy	IT Essentials	Students have been trained in networking concepts which helps them to realize projects.

Table: Impact analysis on Industry supported laboratories for AY 2017-18

2016-17

<b>SNO</b>	<b>Company</b>	<b>Type of Lab</b>	<b>Impact Analysis</b>
1	Oracle Academy	Database design & Programming with SQL	Students have been trained to analyze complex business scenarios, design and create data models, and create databases using SQL which helps in developing various database applications.
2	CISCO Academy	IT Essentials	Students have been trained in networking concepts which helps them to realize projects.

Table: Impact analysis on Industry supported laboratories for AY 2016-17

2017-18

<b>S.NO</b>	<b>Topic</b>	<b>Impact</b>
1	Seminar on software testing methodologies	Students acquired knowledge on various strategies or approaches used to test an application to ensure it behaves and look as expected.
2	Workshop on Deep Learning	Students acquired knowledge on deep learning as an artificial intelligence function that imitates the workings of the human brain in processing data and creating patterns for use in decision making.
3	Workshop on DevOps	Students acquired knowledge on latest technologies and developing applications using them.
4	Workshop on content management systems	Students got an idea in encompassing system that will help them to create, manage, distribute, publish, and archive all of the content.

5	Seminar on Android Application Development	Students could highlight the importance of virtualization in cloud computing in computer science. Students could also understand the challenging security issues and design issues on virtualization in cloud computing.
6	Workshop on Real Time Embedded Systems	Students gained knowledge in embedded Linux, kernel classification, and RTOS and exposed to Linux development environment and GUI application development.
7	Workshop on Data Science using R	Students got an idea how to process data and extract data using R programming
8	Guest Lecture on Deep Learning	Students acquired knowledge on deep learning as an artificial intelligence function that imitates the workings of the human brain in processing data and creating patterns for use in decision making.
9	Guest Lecture on DevOpps	Students acquired knowledge on latest technologies and developing applications using them.

Table: Impact analysis of Guest Lectures/Seminars/workshops AY 2017-18

2016-17

S. No.	Topic	Impact
1	Workshop on Ethical Hacking and Cyber Security	Students acquainted about the anti-virus, anti-spam, and anti-spyware tools currently available and also internet security techniques, firewalls etc.
2	Seminar on Awareness program for studying on higher education in US & Australia”	Students gained knowledge about foreign studies.
3	Workshop on Machine Learning	Students acquired knowledge of latest trends in the area of machine learning and understood implementation aspects which are commonly used in machine learning.
4	Seminar on Data Science Using R	Students got an idea how to process data and extract data using R programming
5	Workshop on Internet of Things	Students gained knowledge and skill in developing various solutions for solving engineering problems in society.
6	Seminar on Trends in Artificial Intelligence	Students acquired knowledge of latest trends in the area of artificial intelligence and understood implementation aspects which are commonly used in machine learning.
7	Workshop on “Discrete Mathematics and its applications ”	Students acquired a basic knowledge on discrete mathematics and its uses.
8	GuestLecture on Latest trends in networking and security technologies	Students got acquainted on fundamentals of networking and security.
9	Guest Lecture on Motivating Students towards professional Education	Students gained knowledge on professional ethics.
10	Two Day Workshop on Machine Learning through Python	Students acquired knowledge of latest trends in the area of machine learning, got exposure to different tools and technologies that are applied using python.

Table: Impact analysis of Guest Lectures/Seminars/workshops AY 2016-17

2015-16

S.No.	Topic	Impact
1	Workshop on “Machine Learning through Python”	Students acquired knowledge of latest trends in the area of machine learning and got exposure to different tools and technologies that are applied using python.
2	Workshop on Automotive Networks	Students gained knowledge on issues related to energy savings as a leading application of vehicular

		communications, trust platform for vehicular networking, and intelligent transportation spaces.
3	Workshop on Cloud computing	Students could highlight the importance of virtualization in cloud computing in computer science. Students could also understand the challenging security issues and design issues on virtualization in cloud computing
4	Guest Lecture on Internet of Things	Students gained knowledge and skill in developing various solutions for solving engineering problems in society.
5	Workshop on “Emerging Technologies in Real Time Embedded Systems”	Students are equipped with the fundamental concepts and tools of embedded system design and programming, interfacing concepts of ARM processor.
6	Seminar on “Internet Security issues”	Students gained knowledge on concepts like malicious software, Denial-of-service attacks, phishing, Network layer security issues.
7	Seminar on BigData	Students learnt different developments in terms of security privacy, cloud’s increasing role in data management

Table: Impact analysis of Guest Lectures/Seminars/workshops AY 2015-16

### Initiative related to industry internship /summer training

#### Industrial Visits /Tours for students.

Industrial visits symbolize important activities in any engineering undergraduate program that contribute to the achievement of diverse essential program outcomes. The following Table shows the industrial visits by students in last three academic years.

#### Industrial Visits by Students

Year	Number of Events
CAYm1 (2017-18)	5
CAY m2 (2016-17)	4
CAYm3(2015-16)	4

Industrial Visits by Students

#### 2017-18

Company Name	Company Sector	Year of the students	Attended Date	No. of students
DELOITTE	IT	III	14th Mar,2018	10
INFOSYS	IT	III	13th Feb,2018	40
NUMERIC TECHNOLOGIES	IT	IV	17th Jan,2018	10
CTRL+S	IT	IV	3rd Oct,2017	30
GGK TECHNOLOGIES	IT	III	22nd Aug,2017	30

Table:Industrial Visits by Students (2017-18)

#### 2016-17

Company Name	Company Sector	Year of the students	Attended Date	No. of students
DELOITTE	IT	III	8th Mar,2017	30
INFOSYS	IT	III	15th Feb,2017	30
TCS	IT	II	18th Jan,2017	30



NUMERIC TECHNOLOGIES	IT	III	20 <sup>th</sup> Sep,2016	10
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Table: Industrial Visits by Students (2016-17)

## 2015-16

Company Name	Company Sector	Year of the students	Attended Date	No. of students
DELOITTE	IT	III	22 <sup>nd</sup> Jan,2016	10
INFOSYS	IT	III	12Feb,2016	20
GGK TECHNOLOGIES	IT	IV	21 <sup>st</sup> Oct,2015	20
TCS	IT	III	16 <sup>th</sup> July,2015	40

Table: Industrial Visits by Students (2015-16)

## Industrial/ Internships/ summer training of more than two weeks and post training assessment

### Industrial Training

Students are trained on latest technologies so that they get real time exposure and gain knowledge in terms of Real-world experience with leading-edge technologies. New skills are added to their knowledge base while gaining confidence in their abilities. The following Table shows the industrial training of students in last three years.

Students of CSE department are trained by experts from industry on various topics useful for enhancing skills

Year	Number of Events
CAYm1 (2017-18)	4
CAYm2 (2016-17)	3
CAYm3 (2015-16)	2

Table: Number of Industrial Training programs conducted AY-wise

## 2017-18

S.NO	Topic	Type of Event	Organized / Resource Person	Dates	Targeted Audience	No.of participants
1	DevOps	Workshop	Mr.K.Sulaxman,Project Manager, Accenture	10/01/18	II ,III & IV yr Students	42
2	Deep Learning	Workshop	Mr.SubbaReddy Oota,Data Scientist at Tera Data	12/03/18	IV yr Students	75
3	DevOps	Guest Lecture	Mr.Sarat Addanki,Vice President in Prolifix	14/07/17	III,IV yr Students	22
4	Real Time Embedded Systems	Workshop	Mr.G.B.R.Kapil Dev Reddy, Project Manager,AVIN Systems,Banglore	07/09/17	IV yr Students	39

Table : Industrial Training (2017-18)

2016-17

S.NO	Topic	Type of Event	Organized / Resource Person	Dates	Targeted Audience	No.of participants
1	Machine Learning through Python	Workshop	Subba Reddy Oota, Data Scientist, Tera Data	05/08/16 & 06/08/16	III&IV yr Students	84
2	Ethical Hacking and Cyber Security	Workshop	Mr.Sandeep Mudalkar, CEO & Founder of Sytech Labs	24/03/17 & 25/03/17	II&III yr Students	60
3	Latest trends in networking and security technologies	Guest Lecture	Sridhar katta, Golars Networks pvt.Ltd.,	17/2/2017	III&IV yr students	46

Table: Industrial Training (2016-17)

2015-16

S.NO	Topic	Type of Event	Organized / Resource Person	Dates	Targeted Audience	No.of participants
1	Android	Workshop	I3 Indya Technologies	16/09/15 & 17/09/15	II yr Students	135
2	Emerging Technologies in Real Time Embedded Systems	Workshop	Aketi Raja Krishna, Juniper Networks	27/08/15 & 28/08/15	IV yr Students	62

Table B.2.2.5.8 Industrial Training (2015-16)

### Internship of the Students

The following Table shows the Internships details of students in last three years.

Year	Number of Students
CAYm1 (2017-18)	16
CAY m2 (2016-17)	12
CAYm3(2015-16)	9

Number of Internships AY-wise

2017-2018

S.N O.	Company Name	Company Sector	Year of the students	Attended Date	Completed Date	No. of students
1	VIRINCHI LTD	IT	II	11-06-2017	29-06-2018	2

2	GREENESTEP TECHNOLOGIES PVT.LTD.	IT	IV	7-06-2017	29-06-2017	2
3	ORACLE	IT	IV	07-03-2018	31-08-2018	2
4	FACE	IT	IV	31-03-2018	31-06-2018	3
5	ZOHO	IT	IV	03-07-2017	31-08-2017	1
6	TSTRANSCO	IT	IV	10-10-2017	10-05-2018	4
7	TECH MAHINDRA	IT	IV	9-2-2018	8-3-2018	1
8	HASURA TECHNOLOGIES PVT.LTD.	IT	II	1-5-2017	14-8-2017	1

Internships AY: 2017-2018

2016-2017

S.NO.	Company Name	Company Sector	Year of the students	Attended Date	Completed Date	No. of students
1	CONSIGN DIMENSION	IT	IV	23-1-2017	29-06-2017	8
2	TCS	IT	IV	10-2-2017	28-4-2017	1
3	HASURA TECHNOLOGIES PVT.LTD.	IT	III	3-2-2017	28-3-2017	3

Internships for AY: 2016-2017

2015-2016

S.NO.	Company Name	Company Sector	Year of the students	Attended Date	Completed Date	No. of students
1	CONSIGN DIMENSION	IT	IV	20-12-2015	19-05-2016	5
2	ZOHO	IT	IV	05-07-2015	31-08-2015	4

Internships AY: 2015-16

### Summer Training

The following tables shows the summer training details in last three years.

Year	Number Of Participants
CAYm1 (2017-18)	40
CAY m2 (2016-17)	13
CAYm3(2015-16)	08

Summer Training details Ay-wise

2017-18

Company Name	Company Sector	Year of the students	Attended Date	No. of students
FACE	Skill Development Agency	III	May 2018	40

Summer Training AY 2017-2018

2016-17

Company Name	Company Sector	Year of the students	Attended Date	No. of students
anveshana.org	IT	III	May 2017	4
DRDO	Advanced Systems Laboratory	IV	May 2017	3
DRDO	Advanced Systems Laboratory	IV	May 2017	3
DRDO	Advanced Systems Laboratory	III	May 2017	3

Summer Training AY: 2016-2017

2015-16

Name	Sector	Year of the students	Attended Date	No. of students
JNTU Exite	JNTU University	III	May –June 2016	08

Table B.2.2.5.16 Summer Training details for AY 2015-16

The following Figure B.2.2.5.5 shows the image of the summer training project Smart Ambulance

### Smart Ambulance Project stood in top-10 projects

#### Impact Analysis of Industrial Training:

Students are trained on latest technologies so that they get real time exposure and gain knowledge in terms of Real-world experience with leading-edge technologies. New skills are added to their knowledge base while gaining confidence in their abilities. Students gain knowledge in terms of

- New technical skills are added.
- Worked on modern tools.
- Learnt various applications.
- Students learn how to integrate theoretical concepts with practical work in engineering environment.

#### Impact Analysis of Industrial visits

Industrial visit helped students to gain the information regarding functioning of the industry. It also provides an opportunity to plan, organize and engage in active learning experiences both inside and outside classroom. It helps students to understand do's and don'ts of the industrial practices.

#### Impact Analysis of Student Internship

Students gain knowledge in terms of

- Real-time experience with leading-edge technologies.
- New skills are added to their knowledge base while gaining confidence in their abilities.
- They got an opportunity to work with a team in the industry.
- They gained professional ethics.

### **Impact Analysis of Summer Training**

Students are trained by well experienced industry people so that they gained knowledge in terms of

- Worked on modern tools that are helped in understanding the applications.
- They got an opportunity to work with teams from different colleges and industry.
- Developed a project and stood in the Top-10 category.
- They gained professional ethics