

| S.No | One credit course need analysis sheet | |
|------|---------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1. | Name of the Course | Integrated Building Management system |
| 2. | Name of the Industry | HVAC Consultant |
| 3. | Name of the SIG associated with | Automation |
| 4. | Motivation for offering the course | The Mechatronics aspects involved in the course motivated to offer the same |
| 4.1 | Feedback (If yes, Details of the feedback as per the annexure I) | |
| | From Recruiter | N |
| | From Employer | N |
| | From Alumni | Y |
| | From Academic Council members | N |
| | From Board of Studies members | N |
| | From Senior students | N |
| | From current students | N |
| | From Performance Assessment Committee | N |
| | From Department Advisory committee | N |
| 4.2 | Faculty participation in Seminar/FDP (If yes, details) | |
| | At higher learning institutes | - |
| | At Industry | - |
| 5. | Outcomes expected | |
| | Technology transfer | Y |
| | Student Internship | - |
| | Placement | - |
| | Organizing FDP/seminar at TCE | Y |
| | Collaborative research/consultancy projects | Y |
| | Faculty as Trainee/Trainer in the Industry | - |
| | Joint publications | |
| | Setting up of Lab/Infrastructure | Y |

Annexure I (Details of Feedback)

| Name of the Person | Date of the visit/meeting | Affiliation | Purpose of visit | Suggestions/ Comments | Action taken |
|---------------------------|----------------------------------|---------------------------------------------|-------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------------|
| V.S.Velram | 05.01.2017 | Director, Integrated Design Partners | To discuss about sponsored project | Suggested to Conduct Course on Building Management system | Proposed to conduct one credit course on 8th and 9th April 2017 |

AGENDA FOR THE MEETING

Name of the meeting : Automation (SIG) - New industry supported course

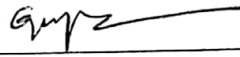
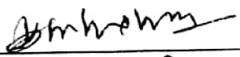
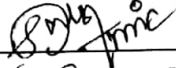
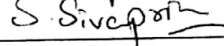
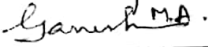
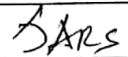
Date of the meeting : 22.2.2017

Time : 3.45 pm - 4.15 pm

Duration : 30 minutes

Venue : Computer Lab, Mechatronics Lab

Attended by:


| Staff | Signature |
|------------------------|------------------------------------------------------------------------------------|
| Dr.G.Kumaraguruparan |  |
| Dr.L.R.Karl Marx |  |
| Mr.S.Julius Fusic |  |
| Ms.Siva Priya |  |
| Mr. M.A. Ganesh |  |
| Mr.S.A.R.Sheik Masthan |  |

Points to be discussed :

1. Gap analysis on one credit course
2. Identification of industry experts

Prepared by B.Praveen Kumar

QR/M5-01 (01) 20-09-2004

Approved by

MINUTES OF THE MEETING

Date of the meeting : 22.2.2017

Name of the meeting : Automation (SIG) - New industry supported course

| Sl. No. | Points discussed | Action plan | Responsibility | Target date |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------|-------------|
| 1. | Automation SIG has Programme core courses like Sensors and PLC, Fluid Power Automation, Power Electronics and Drives, Control System Programme Elective courses like Automotive Mechatronics, Modern Control Systems, System Identification and Adaptive control | - | - | - |
| 2. | Gap Analysis: Building Automation course has to be introduced to the students | Industry supported courses may be organized for the students | Dr.G.Kumaraguruparan | - |
| 3. | Identification of industry: Experts can be identified from the industry which works on Building automation | Industry experts has to be identified. | Dr.G.Kumaraguruparan | 17-03-2017 |
| 4. | Syllabus design for the course <ul style="list-style-type: none"> • Integrated Building Management System in support with HVAC Consultant | Syllabus needs to be designed and passed in Standing Committee | Dr.G.Kumaraguruparan | 03-04-2017 |

Prepared by B.Praveen Kumar Date.....Approved by.....
 QR/M5-02 (00) 14-06-2004

Date...22/2/17

Experts Profile:

A Ferno Susai,

Principal Trainer (HVAC), Inception Training Academy

Principal Consultant (HVAC), Air design engineered solutions

Master Degree in Sociology Profession - Mechanical Engineering

Having 30 years of experience, Expertise in Air-conditioning System Design, Ventilation System design,

Commissioning Authority Services

Professional Experience

- Working till date as a Principal Consult for airdesign engineered solutions, Chennai.
- Working till date as a Principal Trainer for Inception Training Academy, Chennai
- Worked in Blue star Ltd. Chennai, as a Deputy Manager for Air-conditioning Projects Planning & Execution for period of Twelve & Half years.
- Worked in M H Lulla, Air-conditioning Consultant, as a HVAC system designer for a period of five years.
- Worked in Airtech Engineers Pvt Ltd as Planning Engineer for a period of three years.

KRISHNARAJ.T.J

Founder and Proprietor, M/s. C Design Engineering Solutions, Chennai, India

Technical Director , M/s. Shan Engineering Pvt. Ltd, Chennai, India.

Area of Interests : HVAC & Green Building Designing

Technical Qualification:

- D.M.E IN R & AC (Refrigeration and Air-Conditioning)
- B.Tech (Mechanical)
- Indian Green Building Council – Accredited Professional

Summary:

- ✓ Since, March 2016 onwards to till date working in M/s. C Design Engineering Solutions, Chennai, India. (Founder and Proprietor)
- ✓ Since, November 2016 onwards to till date working in M/s. Shan Engineering Pvt. Ltd, Chennai, India. (Technical Director)
- ✓ Since, January 2017 onwards to till date working in M/s. Inception Institute of Building Science, Chennai, India. (HVAC - Trainer)
- ✓ Since, February 2013 onwards to March 2016 in M/s. Innowell Engineering International Pvt. Ltd.,Chennai, India. (Manager–MEP Design)
- ✓ Since, February 2012 onwards to February 2013 working as Freelancer at Chennai, India (HVAC Designer + Green Building Designer)



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

Attendance sheet for the one/two credit

Name of the Course : Integrated Building Management System
Name of the Industry : HVAC Consultant
Name of the Expert : A Ferno Susai, Krishnaraj.T.J
Name of the Faculty : Dr.G.Kumaraguruparan
Date/Time/Venue : 08.04.2017 & 09.04.2017 (9.00 A.M to 4.30 P.M)
Mechanical Seminar Hall
Department : Mechatronics Engineering

| Sl. No. | Reg. No. | Name | 08/05/2017 | | 09/05/2017 | |
|---------|----------|-----------------------|---------------|---------------|---------------|---------------|
| | | | FN | AN | FN | AN |
| 1 | 14F02 | AJITH KUMAR G | Ajith | A. Jith | — | — |
| 2 | 14F03 | ANTONY S | Antony | Antony | — | — |
| 3 | 14F04 | ARAVIND G | Aravind | Aravind | — | — |
| 4 | 14F05 | ARUN PANDIAN K | Arun | Arun | KA | — |
| 5 | 14F06 | ARUN KUMAR PK | Arun | Arun | Arun | — |
| 6 | 14F08 | BALASELVAGANESH B | B. Bal | B. Bal | B. Bal | — |
| 7 | 14F11 | CONDA ASUTHOSH RAMESH | Conda | Conda | Conda | Conda |
| 8 | 14F12 | DEEPAKRAJAN DV | — | — | — | — |
| 9 | 14F13 | DINESH KUMAR S | Dinesh | Dinesh | Dinesh | Dinesh |
| 10 | 14F14 | DIVYA P | P. Divya | P. Divya | P. Divya | P. Divya |
| 11 | 14F15 | GAUSIG PANDIAN M | M. Gausig | M. Gausig | M. Gausig | M. Gausig |
| 12 | 14F16 | GOKULNATH G | Gokul | Gokul | — | — |
| 13 | 14F17 | GOWTHAM K | Gowtham | Gowtham | Gowtham | Gowtham |
| 14 | 14F18 | GUNASEELAN K | G. Gunaseelan | G. Gunaseelan | G. Gunaseelan | G. Gunaseelan |
| 15 | 14F19 | JAYA SOORIYA P | P. Jaya | P. Jaya | P. Jaya | — |
| 16 | 14F20 | JITESH S | Jitesh | Jitesh | Jitesh | — |
| 17 | 14F21 | JOE CHRISTUS E | Joe | Joe | Joe | Joe |
| 18 | 14F25 | KISHORE KAVI R | K. Kishore | K. Kishore | K. Kishore | K. Kishore |
| 19 | 14F26 | KUMAR M | Kumar | Kumar | Kumar | Kumar |
| 20 | 14F27 | KUMARESAN S | S. Kumaresan | S. Kumaresan | S. Kumaresan | — |
| 21 | 14F29 | MADHURA LAKSHMI S | S. Madhura | S. Madhura | S. Madhura | Madhura |
| 22 | 14F30 | MAHENDRAN M | M. Mahendran | M. Mahendran | — | — |
| 23 | 14F31 | MANOJ KUMAR R | R. Manoj | R. Manoj | R. Manoj | — |
| 24 | 14F32 | MUTHU KRISHNAN V | V. Muthu | V. Muthu | — | — |
| 25 | 14F35 | PRABURAJ P | P. Praburaj | P. Praburaj | P. Praburaj | — |

| Sl. No. | Reg. No. | Name | 08/05/2017 | | 09/05/2017 | |
|---------|----------|--------------------|------------|-------|------------|-------|
| | | | FN | AN | FN | AN |
| 26 | 14F36 | PRASANNA BALAJI GS | G.S.P | G.S.P | G.S.P | G.S.P |
| 27 | 14F38 | RAGHU RAMAN B | R.R | R.R | R.R | R.R |
| 28 | 14F43 | ROBY J | R.J | R.J | R.J | R.J |
| 29 | 14F48 | SARATHKUMAR P | S.P | S.P | S.P | S.P |
| 30 | 14F50 | SIBI NANDAN G | S.N | S.N | S.N | S.N |
| 31 | 14F51 | SRISARAN SV | S.S | S.S | S.S | S.S |
| 32 | 14F52 | STEEV WINSTON T | S.W | S.W | S.W | S.W |
| 33 | 14F54 | VENKATESH M | V.M | V.M | V.M | V.M |
| 34 | 14F55 | VENKATESHWARAN M | V.M | V.M | V.M | V.M |
| 35 | 14F56 | VIDHYASHANKAR E | V.S | V.S | V.S | V.S |
| 36 | 14F57 | VIGNESH PERUMAL S | V.P | V.P | V.P | V.P |
| 37 | 14F58 | VIGNESH S | V.S | V.S | V.S | V.S |
| 38 | 14F59 | VIGNESHWARAN M | V.M | V.M | V.M | V.M |
| 39 | 14F60 | VINITH KUMAR M | V.K | V.K | V.K | V.K |
| 40 | 14F61 | DEEPAK KUMAR V | D.K | D.K | D.K | D.K |
| 41 | 14F62 | GANESHKUMAR D | G.D | G.D | G.D | G.D |
| 42 | 14F63 | GOMATHY SHANKAR G | G.S | G.S | G.S | G.S |
| 43 | 14F64 | JEYAMURUGAN J | J.M | J.M | J.M | J.M |
| 44 | 14F65 | MOHAMED NOORDEEN M | M.N | M.N | M.N | M.N |
| 45 | 14F66 | POUNRAJ S | P.S | P.S | P.S | P.S |
| 46 | 14F67 | PRIYADHARSAN M | P.M | P.M | P.M | P.M |
| 47 | 14F68 | RAJARAAMAN M | R.M | R.M | R.M | R.M |
| 48 | 14F70 | SILAMBARASAN R | S.R | S.R | S.R | S.R |
| 49 | 14F71 | SUBBU RAJ A | S.R | S.R | S.R | S.R |

Signature of the Faculty Coordinator



THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

Course Schedule

Name of the Course: Integrated Building Management System

Name of the Industry: HVAC Consultant

Name of the Expert: A. Ferno Susai, Krishnaraj. T. J


Number of Students enrolled: 67

Name of the Faculty: Dr. G. Kumaraguruparan

Date/Time/Venue: 08.04.2017 & 09.04.2017 (9.30 A.M to 4.30 P.M), Mechanical Seminar Hall, Department of Mechanical Engineering

Department: Mechatronics Engineering

| Date | Time | Topic |
|------------|---------------|-------------------------------------|
| 08.04.2017 | 9.00 – 11.00 | Overview of IBMS |
| | 11.00 – 11.15 | Break |
| | 11.15 – 1.15 | System Architecture of IBMS |
| | 1.15 – 2.15 | Lunch |
| | 2.15 – 4.15 | Integration HVAC System |
| 09.04.2017 | 9.00 – 11.00 | Integration of Fire Alarm system |
| | 11.00 – 11.15 | Break |
| | 11.15 – 1.15 | Integration other Building Services |
| | 1.15 – 2.15 | Lunch |
| | 2.15 – 3.45 | Wokshop on IBMS |
| | 3.45 – 4.15 | Question |


Signature of the Faculty Coordinator


THIAGARAJAR COLLEGE OF ENGINEERING - MADURAI 625 015
TCE-III

Course Instructor Feedback for One/Two credit course

Name of the Course : Integrated Building Management System
 Name of the Industry : HVAC Consultant
 Name of the Expert : A. Ferno Susai, Krishnaraj. T. J
 Date/Time/Venue : 08.04.2017 & 09.04.2017 (9.00AM to 4.30 PM),
 Mechanical Seminal Hall

| | Comments |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Student attendance | 100% |
| Level of the students in understanding the concepts | Understanding levels are very good, students are very much interested. |
| Any suggestions regarding new content to be included as Prerequisites/Special electives | Before getting into IBMS students should learn the basic of MEP, any how we have covered that topic. The same topic shall be included in upcoming training. |
| Hall/Lab arrangements | Good |
| Hospitality | Very Good |

Signature of the Course Instructor