



CMR COLLEGE OF ENGINEERING & TECHNOLOGY

An Autonomous Institution with NAAC Accreditation (A Grade)

*Approved by AICTE *Permanently affiliated to JNTUH *NBA Accreditation

Kandlakoya (V), Medchal Road, Hyderabad -501401.

CIVIL

Report on Programs conducted in Civil Engineering Department

Academic Year 2016-2017

1. Report on Faculty Development Programme on Teaching Methodologies

A one week faculty development programme on "Teaching Methodologies" was organized by CMR College of Engineering & Technology. The programme was held at the Auditorium, Room No 002, Block -II of CMR College of Engineering & Technology, from 28th November to 03rd December, 2016. This FDP aims to provide opportunities to faculty members who are teaching various disciplines of science and engineering subjects in colleges and Universities to enrich their teaching and learning skills. There were 15 number of participants registered from external colleges and 8 faculty internally for this programme.

INAUGURAL SESSION:

The esteemed personalities present on the inauguration of the programme:

Dr.K.Srivas Raju, Professor, GRIET

Dr.M.Sudhakar,, Professor, CMRCET

Major Dr.V.A. Narayana, Principal, CMRCET

Dr. N. Sathyanarayana, Director Academics CMRGI

DrV.Chandra Shaker, Professor, CMRCET

Dr. K.Suresh, HOD of Civil welcomed all the respected dignitaries and participants. The Inaugural Address was addressed by the Guest Dr. K. Srinivas Raju, Professor, GRIET. In his address he stressed about the importance of Teaching Methodologies in teaching among the participants. Dr. N. Sathyanarayana, Director Academics CMRGI highlighted the activities of the programme. All the respected members on the dignitaries also graced the inaugural function of the programme.

Resource Persons from reputed academic institution, Dr.K.Srinivas Raju, Professor, GRIET having expertise in the different relevant areas related to the programme deliver the lectures in this Faculty Development Programme.

VALEDICTORY SESSION:

The honorable personalities present in this occasion are Dr.M.L.Sai Kumar, Professor Hyderabad, Dr. N. Sathyanarayana, Director Academics CMRGI, Principal and all the deans of CMRCET. Dr.K.Suresh, Head of the Civil Department summarized the program. All the personalities appreciated the department for organizing the FDP. The program was ended with vote of thanks by Dr.Manish Varma, Professor, Civil Dept., CMRCET & Coordinator of the FDP.

This Faculty Development Programme (FDP) fulfils its major outcome to bring the faculty of different engineering, science and allied subjects onto one platform to update the importance how to work on classroom ambiance, Constructivist teaching methods etc., and also well equipped the participants with all the features of effective tool in Teaching and Learning.

2. Report on Faculty Development Programme on Earth Observation Technologies & Their Applications

A one week faculty development programme on "Earth Observation Technologies & Their Applications" was organized by CMR College of Engineering & Technology. The programme was held at the Auditorium, Room No 002, Block -II of CMR College of Engineering & Technology, from 17th to 22nd October, 2016. This FDP aims to provide opportunities how to gather the information about the physical, chemical, and biological systems of the planet via remote-sensing technologies, supplemented by surveying techniques. Faculty members who are teaching various disciplines of science and engineering subjects in colleges and Universities got benefited. The number of internal and external participants registered is 24 for this programme.



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INAUGURAL SESSION:

The esteemed personalities present on the inauguration of the programme:

Dr.P.V.Rao, Professor, VBIT

Major Dr.M.Ramalinga Reddy, Principal, CMRCET,

Dr. Lokeshwara Rao, Dean Academics, CMRCET,

Dr. M. Sudhakar, Dean, Planning and Development, CMRCET,

Dr. K.Suresh, HOD of Civil welcomed all the respected dignitaries and participants. The Inaugural Address was addressed by the Guest Dr.P.V.Rao, Professor, VBIT. In his address he stressed about the importance of Forecasting weather, Tracking biodiversity and wildlife trends and deforestation. All the respected members on the dignitaries also graced the inaugural function of the programme.

Resource Persons Dr. Giridhar, Professor, JNTUH, Dr.Sridhar, Osmania University of reputed academic institutions having expertise in the different relevant areas related to the programme deliver the lectures in the topic related to monitoring and responding to natural disasters, managing natural resources, such as energy, in this Faculty Development Programme.

VALEDICTORY SESSION:

The honorable personalities present in this occasion are Sridhar, Professor, Osmania University, Principal and all the deans of CMRCET. Dr.K.Suresh, Head of the Civil Department summarized the program. All the personalities appreciated the department for organizing the FDP. The program was ended with vote of thanks by Dr. J.Srinivasa Rao Professor., Civil Dept., CMRCET.

3. Report on One Day INTERNATIONAL WORKSHOP on GLOBAL RESEARCH AVENUES IN CIVIL ENGINEERING

A one day international workshop on GLOBAL RESEARCH AVENUES IN CIVIL ENGINEERING was held on 2nd February 2017. The programme was organized by CMR College of Engineering & Technology. The Programme started on 02.2.2017 at 9.30, am with the formal Inaugural function. The function started with chant Song, followed by the welcome speech given by Dr K. Suresh, HoD, CIVIL. Inaugural Function was addressed by the Guest Sri. Ch.Gopal Reddy, Secretary and Guest of honor Dr.Paul Fanning, Professor, School of Civil, Structural & Environmental Engineering, University College Dublin, Ireland.

The Technical session and opportunities for future studies in UCD was handled by Dr.Paul Fanning, Professor, School of Civil, and Structural & Environmental Engineering. The third session was taken by Dr.Neelima Satyam Assistant Professor IITH, Hyderabad on the topic Current in-situ applications in Geotechnical Engineering. Around 17 Internal participants and 9 external faculty, Research scholars and students from various colleges and universities were benefited from this Programme. This two day workshop was ended with a valedictory function proceed with certificate processing followed by vote of thanks.

4. Report on Administrative Training Program on Orientation Program on Autonomy in Higher Education (2016-2017)

The Administrative Training Program has conducted from 14.07.2016 to 16.07.2016.

Day1:Dr. G.Anand, Professor, MRITS, has started the program by lighting the lamp. The program has started by 10:00AM on 14.07.2015. Dr. G.Anand has given presentation on the topic. Entitled about six bodies exercising controls on management education which has to pay crucial role in growth and



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development of country, which gave a clear idea to the participants. Faculty from other colleges attended the program. The Day1 program has concluded by 3:45PM.

Day2: Dr. T.Vijaya Gowri, Professor, BVRIT, has started the program by 10:00AM on 15.07.2015. Dr. T.Vijaya Gowri has given a presentation on the topic. It included what is autonomy in higher education and how can institutes improve quality of education and stressed the important role and benefits from Autonomy in Higher Education. Participants from other colleges also attended the program. The Day2 Program has concluded by 3:30PM.

Day3: Dr. N.Malathi, Professor, VR Siddhartha, has started the program by 9:45AM on 16.07.2015. Dr. N.Malathi has given a presentation on Autonomy in Higher Education and the need of autonomy in higher education. How to implement the program successfully and the requirements for successful implementations like participation of students, teacher and management. She guided the participants regarding the above mentioned topic clearly with good explanation. Participants from different colleges attended the program. The Day3 program has concluded by 3:45PM.

5. Report on Hands on Training to Operate Fire Extinguisher

The Administrative Training Program has conducted from 17th to 19th MAY 2017 by Civil Engineering Department CMR College of Engineering & Technology.

This training has given by Mr. D. Sathish from Vijayavani fire & Safety Academy

The below points are discussed in the program

1. Purpose of a Fire Extinguisher
2. Data and Statistics of Fires
3. Fire Extinguisher Types and Identification
4. Fire Classification and Characteristics
5. Hazards associated to incipient stage Fires
6. How to Operate Fire Extinguisher
7. When Not to Fight a Fire
8. Maintenance, Testing and Inspection

Three days training has given a clear idea of fire extinguisher training to the participants. Participants from other colleges also attended the program. The program has conducted successfully.

6. Report on Workshop on Introduction to Land Surveying

A three day Workshop on "workshop on introduction to Land Surveying" in Civil Engineering Laboratory has conducted during 29/03/2017 to 31/03/2017. The workshop aims to provide adequate working knowledge on total stations which are widely in use across civil engineering and other industries. Workshop This Workshop conducted for non teaching Staff, There were external participants from different colleges and institutes and around 10 participants from CMRCET. The total 19 number of Participants are Registered for this Program.

The Resource Persons for the program are

1. Mr. V. Ravindra, Associate Professor CMRCET
2. Mr. Ch. Rajendra Prasad, Assistant Professor CMRCET
3. Mr. D. V. Niranjana, Assistant Professor CMRCET

The Workshop has started by Dr. K. Suresh Professor & Head, Civil Engineering Department CMRCET, by lighting the lamp.

The below points are discussed in the program

- Learn Total Station from basic to advance level
- Understand site survey procedures and planning workflow
- Learn various operations of Total Station
- Data Management

The entire three day Workshop has conducted successfully with the help of the resource persons. Three days training has given a clear idea about total station from Basic to Advance level, Operation of Total station and Data management. The resource persons have shared their knowledge with the participants. The Participants said that the program was very interesting and the content will be very useful.

7. Report on A Workshop on Fundamentals in AutoCAD Drafting



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A Three Days Workshop on "A Workshop on Fundamentals in AutoCAD Drafting" was organized by CMR College of Engineering & Technology. The programme was held at the Auditorium, Room No 002, Block -II of CMR College of Engineering & Technology, from 7th July to 9th July 2016. This Workshop aims to provide opportunities to Learn AutoCAD Software for non teaching Staff to improve their Skills. The total 22 number of Participants are Registered for this Program from External colleges and Internal College.

The Resource Persons for the program are

1. Mr. Joel Samuel, Associate Professor CMRCET
2. Ms. K. Mary Thomas, Associate Professor CMRCET
3. Ms. K. Santhoshi Assistant Professor CMRCET

Day1: Dr. K.Suresh, Professor and Head of Civil Engineering Department welcomed all the respected dignitaries and participants. The Workshop has started by Dr. K. Suresh Professor, by lighting the lamp. Mr. Joel Samuel Associate Professor, CMRCET, has started the workshop on 7th July 2016. The program has started at 9:30AM with the introduction to AutoCAD.He has briefed about basic Design Tools & Operating Co-Ordinate systems the program for that day has ended at 3:15PM.

Day2: Ms. K. Mary Thomas Associate Professor, CMRCET, has started the program at 10:00 AM on 13.08.2015. She given a presentation on Creating Parts & Dimensioning & Drafting of the Parts in AutoCAD .The questioning session has started at 3:15PM and the session closed at 3:30PM.

Day3: Ms. K. Santhoshi Assistant Professor, CMRCET, She started the program at 10:00AM on 14.08.2015. She discussed about the Overview of Isometric view and Design of Parts in isometric view. Dr.K.Suresh, Head of the Civil Department summarized the program. All the personalities appreciated the department for organizing the FDP. The program was ended with vote of thanks by Dr. N. Govinda Reddy Professor., Civil Dept., CMRCET.

The Day3 Program was concluded by 3:30PM.

EEE
(2016-17)

A Report on
One week FDP on Teaching Methodologies
28-11-2016 to 03-12-2016

This FDP Focuses on different types of teaching methods which can be categorised into three broad types. These are teacher-centred methods, learner-centred methods, content-focused methods and interactive/participative methods.

(a) INSTRUCTOR/TEACHER CENTRED METHODS

Here the teacher casts himself/herself in the role of being a master of the subject matter. The teacher is looked upon by the learners as an expert or an authority. Learners on the other hand are presumed to be passive and copious recipients of knowledge from the teacher. Examples of such methods are expository or lecture methods - which require little or no involvement of learners in the teaching process. It is also for this lack of involvement of the learners in what they are taught, that such methods are called "closed-ended".

(b) LEARNER-CENTRED METHODS

In learner-centred methods, the teacher/instructor is both a teacher and a learner at the same time. In the words of Lawrence Stenhouse, the teacher plays a dual role as a learner as well "so that in his classroom extends rather than constricts his intellectual horizons". The teacher also learns new things everyday which he/she didn't know in the process of teaching. The teacher, "becomes a resource rather than an authority". Examples of learner-centred methods are discussion method, discovery or inquiry based approach and the Hill's model of learning through discussion (LTD).

(c) CONTENT-FOCUSED METHODS

In this category of methods, both the teacher and the learners have to fit into the content that is taught. Generally, this means the information and skills to be taught are regarded as sacrosanct or very important. A lot of emphasis is laid on the clarity and careful analyses of content. Both the teacher and the learners cannot alter or become critical of anything to do with the content. An example of a method which subordinates the interests of the teacher and learners to the content is the programmed learning approach.

(d) INTERACTIVE/PARTICIPATIVE METHODS

This fourth category borrows a bit from the three other methods without necessarily laying emphasis unduly on either the learner, content or teacher. These methods are driven by the situational analysis of what is the most appropriate thing for us to learn/do now given the situation of learners and the teacher. They require a participatory understanding of varied domains and factors.

This programme was conducted exclusively for our college faculty members of 17 members. This type of structured teaching methodology has helped all the participants to get interested

in teaching profession and do justice. Participants also expressed that, by following the methods suggested in the class will greatly benefit the students.

Especially CMRCET staff expressed that such new techniques will help not only teaching, it improves our concern for students also, and while teaching we too can learn many new approaches, and it is win-win situation.

**A Report on
FDP on Effective Teaching
11-01-2017 to 12-01-2017**

Effective teachers strive to motivate and engage all their students in learning rather than simply accepting that some students cannot be engaged and are destined to give poor performance. They believe every student is capable of achieving success at school/college and they do all they can to find ways of making each student successful.

The classroom is a dynamic environment, bringing together students from different backgrounds with various abilities and personalities. Being an effective teacher therefore requires the implementation of creative and innovative teaching strategies in order to meet students' individual needs. Whether you've been teaching two months or twenty years, it can be difficult to know which teaching strategies will work best with your students. As a teacher there is no 'one size fits all' solution, so here is a range of effective teaching strategies you can use to inspire your classroom practice. Engaging in regular professional development programmes is a great way to enhance teaching and learning in classroom. With educational policies constantly changing it is extremely useful to attend events where you can gain inspiration from other teachers and academics. It's also a great excuse to get out of the classroom and work alongside other teachers just like you!

Sessions can include learning about **new educational technologies, online safety training**, advice on **how to use your teaching assistant(s)** and much more. Being an effective teacher is a challenge because every student is unique; however, by using a combination of teaching strategies you can address students' varying learning styles and academic capabilities as well as make your classroom a dynamic and motivational environment for students.

In summary there are seven methods to follow while teaching: 1. Visualization 2. Co-operative learning 3. Inquiry based instruction 4. Differentiation 5. Technology in the classroom. 6. Behaviour management 7. Professional development

There were 42 faculty members attended this program. All the participants were very happy and satisfied about the course coverage and delivery of lectures. Expressed that, some of the tips learned from this course will be highly useful in regular teaching at college. In particular CMRCET faculty expressed that they could learn new methods to teach and motivate the students. Through this type of organized way of teaching, effective way of taking up of projects will be easier.

**A Report on
Two Week workshop on "MATLAB"
01.05.2017 to 13.05.2017**

The MATLAB/SIMULINK tool is used to model power system components such as Machines, transmission lines, loads, FACTS devices and associated controls ect for analyzing the system performance under disturbance. The MATLAB provides library of information of all electrical components. It is user defined; system can be simulated by appropriately modeling the system single line diagram. To study the performance of the system under disturbance conditions, possible disturbances can be applied to study. This requires good exposure of the system and its behavior under certain disturbances. This MATLAB/SIMULINK tool is very much useful while carrying out research work.

There were 20 faculty members attended this program. All the participants were benefited on the subject and mainly while working out on tutorial examples.

**A Report on
One week Workshop on PCB Designing & Fabrication
24-08-2016 to 29-08-2016**

Those small green boards are what helps makes the electronic device function. Without them, the device would not work. The PCB connects all of the other components inside, so you can use your electronic device for what it is intended to do.

Although they are small, the manufacturing process of a PCB is quite extensive. Whether you are making one yourself or going through a PCB manufacturer, multiple steps are crucial to the development of the board. Because each step is so critical to the process, let's take a close look at the manufacturing process of a PCB.

PCB Manufacturing Process

Printed circuit boards are typically made with copper. Depending on the requirements, the copper is plated to a substrate and carved away to expose the design of the board. Since there are multiple layers, they must be lined up and bonded together for a secure fit.

Step 1 – The Design

Before you begin manufacturing the PCB, you need to have a design of the board. These blueprints will be what you base the process off of. The design process is generally completed through computer software. Using a trace width calculator will help with a majority of the details needed for inner and external layers.

Step 2 – Printing the Design

A special printer called a plotted printer is used to print the design of the PCB. It produces a film that shows the details and layers of the board. When printed, there will be two ink colors used on the inside layer of the board:

- Clear Ink to show the non-conductive areas; and
- Black Ink to show the conductive copper traces and circuits.

The same colors are used for the outer layers, but the meaning of them is reversed.

Step 3 – Creating the Substrate

Now is when the PCB will start to form. The substrate, which is the insulating material (epoxy resin and glass fiber) that holds the components on the structure, begins forming by passing the materials through an oven to be semicured. Copper is pre-bonded to both sides of the layer and then etched away to show the design from the printed films.

Step 4 – Printing the Inner Layers

The design is printed to a laminate, the body of the structure. A photo-sensitive film made from photo-reactive chemicals that will harden when exposed to ultraviolet light (the resist) covers the structure.. This will help align the blueprints and the actual print of the board. Holes are drilled into the PCB to help with the alignment process.

Step 5 – Ultraviolet Light

Once aligned, the resist and laminate go under ultraviolet lights to harden the photoresist. The light reveals the pathways of copper. The black ink from before prevents hardening in areas that will be removed later on. The board is then washed in an alkaline solution to remove the excess photoresist.

Step 6 – Removing Unwanted Copper

Now, it is time to remove any unwanted copper that remained on the board. A chemical solution, similar to the alkaline solution, eats away at the unwanted copper. The hardened photoresist remains intact.

Step 7 – Inspection

The newly-cleaned layers will need to be inspected for alignment. The holes drilled earlier help align the inner and outer layers. An optical punch machine drills a pin through the holes to keep the layers lined up. After the optical punch, another machine will inspect the board to ensure there are no defects. From here on out, you will not be able to correct any missed errors.

Step 8 – Laminating the Layers

Now, you will see the board take shape as the layers are fused together. Metal clamps hold the layers together as the laminating process begins. A prepreg (epoxy resin) layer goes on the alignment basin. Then, a layer of substrate goes over the prepreg followed by a copper foil layer and more prepreg resin. Lastly, there is one more copper layer applied, which is the press plate.

Step 9 – Pressing the Layers

A mechanical press is then used to press the layers together. Pins are punched through the layers to keep them properly aligned and secured, these pins can be removed depending on the technology. If correct, the PCB will go to the laminating press, which applies heat and pressure to the layers. The epoxy melts inside of the prepreg that, along with the pressure, fuses the layers together.

Step 10 – Drilling

Holes are drilled into the layers by a computer-guided drill to expose the substrate and inner panels. Any remaining copper after this step is removed.

Step 11 – Plating

The board is now ready to be plated. A chemical solution fuses all of the layers together. The board is then thoroughly cleaned by another series of chemicals. These chemicals also coat the panel with a thin copper layer, which will seep into the drilled holes.

Step 12 – Outer Layer Imaging

Next, a layer of photoresist, similar to Step 3, is applied to the outside layer before being sent for imaging. Ultraviolet light hardens the photoresist. Any undesired photoresist is removed.

Step 13 – Plating

Just like in Step 11, the panel is plated with a thin copper layer. After this, a thin tin guard is layered to the board. The tin is there to protect the copper of the outside layer from being etched off.

Step 14 – Etching

The same chemical solution from before removes any unwanted copper under the resist layer. The tin guard layer protects the needed copper. This step established the PCB's connections.

Step 15 – Solder Mask Application

All of the panels should be cleaned before the solder mask is applied. An epoxy is applied with the solder mask film. The solder mask applies the green color you typically see on a PCB. Any unwanted solder mask is removed with ultraviolet light, while the wanted solder mask is baked on to the board.

Step 16 – Silk-screening

Silk-screening is a vital step since this process is what prints critical information onto the board. Once applied, the PCB passes through one last coating and curing process.

Step 17 – Surface Finish

The PCB is plated with either a solderable finish, depending on the requirements, which will increase the quality/bond of the solder.

Step 18 – Testing

Before the PCB is considered complete, a technician will perform an electrical test on the board. This will confirm the PCB functions and follows the original blueprint designs.

There were 20 faculty members from our institute who attended the program. All the participants expressed satisfaction about the course introduction and felt that research problems can be formulated.



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MECHANICAL

Report of the Faculty Development Programmes For Academic Year 2016-17

“ Applications of Engineering Materials ”

Date: 20-09-2016.

The Faculty development programme on “Applications of Engineering Materials” held on 12-09-2016 to 17-09-2016. This Faculty Development Program is intended to bridge the gap between Research and Academics in Mechanical Engineering by comprehensively dealing the Applications of Engineering Materials. Engineering Materials science is a syncretic discipline hybridizing metallurgy, ceramics, solid-state physics, and chemistry. It is the first example of a new academic discipline emerging by fusion rather than fission. A material is defined as a substance (most often a solid, but other condensed phases can be included) that is intended to be used for certain applications. There are a myriad of materials around us—they can be found in anything from buildings to spacecraft. Materials can generally be further divided into two classes: crystalline and non-crystalline. This Faculty development programme discussed different type of applications IN Engineering Materials. This Faculty Development Program will provide the opportunities to Flourish the Knowledge for the participants.

It is a one week training programme and was scheduled from 9.10am to 4.00pm for one week including lunch and tea snacks. The Training sessions were quite interactive in nature and included various points, which helped in traits. Overall the training Programme provided various methods for Applications of Engineering Materials.

“Applications of Engineering Graphics in Industries”

Date: 28-12-2016.

The Faculty development programme on “Applications of Engineering Graphics in Industries” held on 19-12-2016 to 24-12-2016. This Faculty Development Program is intended to bridge the gap between Research and Academics in Mechanical Engineering by comprehensively dealing the Applications of Engineering Graphics in Industries. An engineering drawing, a type of technical drawing, is used to fully and clearly define requirements for engineered items. Engineering drawing (the activity) produces engineering drawings (the documents). More than merely the drawing of pictures, it is also a language—a graphical language that communicates ideas and information from one mind to another.. This Faculty Development Program will provide the opportunities to flourish the Knowledge for the participants.

It is a one week training programme and was scheduled from 9.10am to 4.00pm for one week including lunch and tea snacks. The Training sessions were quite interactive in nature and included various points, which helped in traits. Overall the training Programme provided various methods for Applications of Engineering Graphics in Industries.

“Recent Trends in 3D Printing”

Date: 22-02-2017.

The Faculty development programme on “Recent Trends in 3D Printing” held on 13-02-2017 to 18-02-2017. This Faculty Development Program The 3D printing process builds a three-dimensional object from a computer-aided design (CAD) model, usually by successively adding material layer by layer, which is why it is also called additive manufacturing, unlike conventional machining, casting and forging processes, where material is removed from a stock item (subtractive manufacturing) or poured into a mold and shaped by means of dies, presses and hammers. It will be use full to different type of applications like Cloud-based additive manufacturing, Rapid manufacturing, Rapid prototyping, Medical applications, Manufacturing applications, etc. This Faculty Development Program will provide the opportunities to flourish the Knowledge for the participants.

It is a one week training programme and was scheduled from 9.10am to 4.00pm for one week including lunch and tea snacks. The Training sessions were quite interactive in nature and included various points,



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which helped in traits. Overall the training Programme provided various methods for Recent Trends in 3D Printing.

“Advanced CAD/CAM”

Date: 28-03-2017.

The Faculty development programme on “Advanced CAD/CAM” held on 20-03-2017 to 25-03-2017. This Faculty Development Program is intended to bridge the gap between Research and Academics in Mechanical Engineering by comprehensively dealing the Advanced CAD/CAM. For Product design, influence of Geometry has a significant role. Computer-aided manufacturing (CAM) also known as Computer-aided Modeling or Computer-aided Machining is the use of software to control machine tools and related ones in the manufacturing of work pieces . This is not the only definition for CAM, but it is the most common. CAM may also refer to the use of a computer to assist in all operations of a manufacturing plant, including planning, management, transportation and storage. Its primary purpose is to create a faster production process and components and tooling with more precise dimensions and material consistency, which in some cases, uses only the required amount of raw material (thus minimizing waste), while simultaneously reducing energy consumption. The FDP also deals with Theory of Inventive Problem Solving techniques as a tool for solving complicated problems of Engineering. This Faculty Development Program will provide the opportunities to flourish the Knowledge for the participants.

It is a one week training programme and was scheduled from 9.10am to 4.00pm for one week including lunch and tea snacks. The Training sessions were quite interactive in nature and included various points, which helped in traits. Overall the training Programme provided various methods for Advanced CAD/CAM.

“Current trends in Materials and Manufacturing”

Date: 30-05-2017.

The Faculty development programme on “Current trends in Materials and Manufacturing ” held on 15-05-2017 to 27-05-2017. This Faculty Development Program is intended to bridge the gap between Research and Academics in Mechanical Engineering by comprehensively dealing the Current trends in Materials and Manufacturing. For Product design, influence of Geometry has a significant role. The FDP also deals with Theory of Inventive Problem Solving techniques as a tool for solving complicated problems of Engineering. This Faculty Development Program will provide the opportunities to flourish the Knowledge for the participants.

It is a one week training programme and was scheduled from 9.10am to 4.00pm for one week including lunch and tea snacks. The Training sessions were quite interactive in nature and included various points, which helped in traits. Overall the training Programme provided various methods for Current trends in Materials and Manufacturing.

“ Testing of Materials- DT and NDT ”

Date: 26-11-2016

The Faculty development programme on “Testing of Materials- DT and NDT ” held on 21-11-2016 to 23-11-2016. This Faculty Development Program discussed different type of methods in non destructive testing and destructive testing like Lpt, Visual Inspection methods, etc . In destructive testing (or destructive physical analysis, DPA) tests are carried out to the specimen's failure, in order to understand a specimen's performance or material behavior under different loads. These tests are generally much easier to carry out, yield more information, and are easier to interpret than nondestructive testing. Nondestructive testing (NDT) is a wide group of analysis techniques used in science and technology industry to evaluate the properties of a material, component or system without causing damage. The terms nondestructive examination (NDE), nondestructive inspection (NDI), and nondestructive evaluation (NDE) are also commonly used to describe this technology. Because NDT does not permanently alter the article being inspected, it is a highly valuable technique that can save both money and time in product evaluation, troubleshooting , and research. The Training Program also deals with Theory of Inventive Problem Solving techniques as a tool for solving complicated problems of



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Engineering. This Training Program will provide the opportunities to flourish the Knowledge for the participants

It is Three day training programme and was scheduled from 9.10am to 4.00pm for Three days including tea and snacks. The Training sessions were quite interactive in nature and included various points, which helped in traits.

“Engineering Applications ”

Date: 21-06-2017.

The Faculty development programme on “Engineering Applications” held on 15-06-2017 to 17-06-2017. This Training Program is intended to bridge the gap between Academics in Mechanical Engineering by comprehensively dealing the Engineering Applications . For Product design, influence of Geometry has a significant role. The Training also deals with Theory of Inventive Problem Solving techniques as a tool for solving complicated problems of Engineering. This Training Program will provide the opportunities to flourish the Knowledge for the participants.

It is Three day training programme and was scheduled from 9.10am to 4.00pm for Three days including tea and snacks. The Training sessions were quite interactive in nature and included various points, which helped in traits.

“Outcome Based Education (OBE) and NBA accreditation process”

Date: 20/12/2016

The Faculty development programme on “Outcome Based Education (OBE) and NBA accreditation process” was held on 16-12-2016 to 18-12-2016. This Faculty Development Program was intended to make the participant understand the process of NBA accreditation process and let the audience expose to both program level and institution level criteria. The program included an emphasis on NBA SAR format, which entirely relied on objective based evaluation. Unlike other similar programs, this program reached the crest of NBA process.

It was a five-day training program and was scheduled from 9.10 AM to 4.00 PM for five days including lunch and tea snacks. The training sessions were quite interactive in nature and included various points, which helped in traits. Overall the training program provided various methods for Outcome Based Education (OBE) and NBA accreditation process.

“Servicing, Maintaining and, Working Details of Generator and It’s Use in Commercial and Non-Commercial Fields”

Date:05/10/2016

The one week training programme for non-teaching staff on “Servicing, Maintaining and, Working Details of Generator and It’s Use in Commercial and Non-Commercial Fields” was held on 03-10-2016 to 05-10-2016. The prime objective of this training program was to introduce about the different type and size of transformer used in distinct engineering fields. This training program comprehensively dispensed the procedure for the servicing, maintenance and constructional detail of different size of generator. This training program will be helpful to enhance the job enrichment, technical knowledge of the employee, excellence in organizational work and, overall learning.

It is a Three Day training program and was scheduled from 9.10am to 4.00pm for one week including lunch and tea snacks. The Training sessions were quite interactive in nature and included various points, which helped in traits. Overall the training Program was very knowledgeable and helpful for everyone as the contents of program proved this.



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We thanks to CMRCET for providing such an opportunity and we wish that we get such another opportunity in future to enhance excellence in organizational work and enhance overall learning.



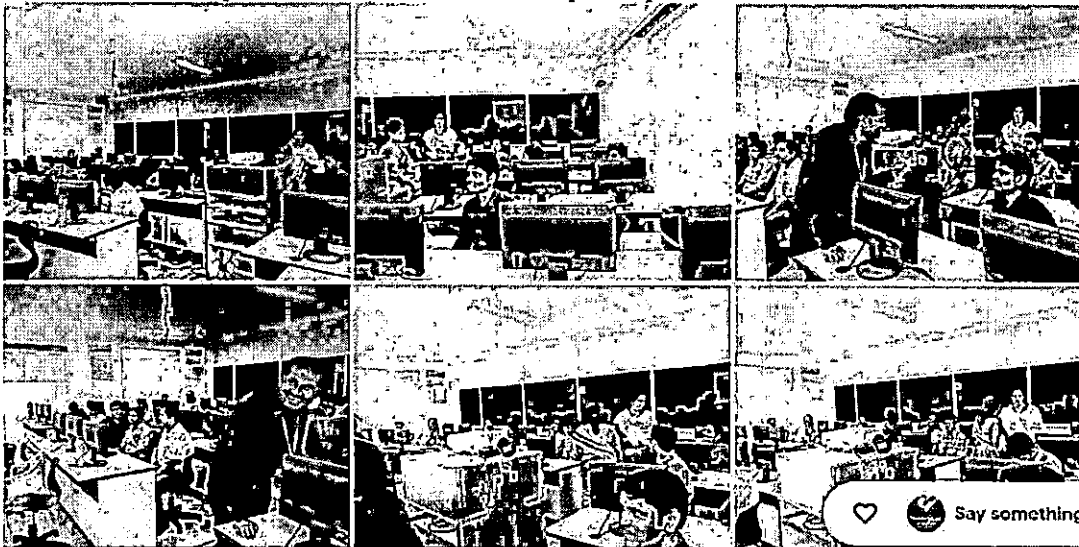
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ECE

The Department of ECE has conducted 5 Faculty Development Programmes and 3 Workshop programs and 2 Orientation programs for the year 2016-2017. All the programs was conducted under the chairmanship of Principal Dr. M.Ramalinga Reddy and the convenership of Dr.B.Lokeswara Rao.

A One Week Faculty Development Programme on **Advanced VLSI Design- Hands on Experience with CAD Tools** was held during the period of 19th to 28th June, 2017 for which the allotted budget was Rs. 35000/-. The coordinator for this FDP is Dr. T. Anil Kumar, Professor and **Mr.Abdul Subhani Shaik, Asst.Professor of ECE Department.** Dr.G.V.Hari Prasad, Professor ECE Department, MISW Khammam, Prof Mr.V.Srinivasa Rao, Assoc.Professor, ECE Department, SVECW, Bhimavaram was the main resource persons and the total no. Of participants are 35.



A One Week Faculty Development Programme on **Mobile computing Adhoc networking** was held during the period of 19th to 23rd May 2017 for which the allotted budget was Rs. 32000/-. The coordinator for this FDP is Dr. T. Anil Kumar, Professor and **Mr.B.Chakradhar, Asst.Prof. of ECE Department.**Dr.ShanidulHoque,Sr.Asst.Professor,MITSMadhanapallewas the main resource persons and the total no. Of participants are 32.

A One Week Faculty Development Programme on **Challenges in FPGA based Digital System Design** was held during the period of 17th to 22nd April 2017 for which the allotted budget was Rs. 35000/-. The coordinator for this FDP is Dr. Sachin Sarma, Professor and **Ms.K.Jyothi, Asst.Professor of ECE Department.** Dr.Rupam Goswami, Asst.Professor,BITS Pilani was the main resource persons and the total no. Of participants are 31.

A One Week Faculty Development Programme on **Analog & Digital IC Design-Hands on Experience using Cadence tools** was held during the period of 26th Dec to 31st Dec 2016 for which the allotted budget was Rs. 40000/-. The coordinator for this FDP is Dr V Rajesh, Professor, Professor and **B.Suresh Ram, Assoc.Professor of ECE Department.** Dr.G.V.Hari Prasad Professor ECE Department, MISW Khammam, Prof Mr.V.Srinivasa Rao, Assoc.Professor, ECE Department, SVECW, Bhimavaram was the main resource persons and the total no. Of participants are 28.

A one Week Faculty Development Programme on **Embedded System and Wireless Connectivity with IoT Application** was held during the period of 1st to 10th July 2016 for which the allotted budget was 28000/-. The coordinator for this FDP is Mrs.VandanaKhare,Assoc Professor and **Mr.K.Rama Rao, Asst. Professor of ECE Department.** Prof Mr.V.Srinivasa Rao, Assoc.Professor, ECE Department, SVECW, Bhimavaram was the main resource persons and the total no. of participants are 32.

Three day workshop on **Arduiono Basics** was held during the period of 1st to 3rd August 2016 for which the allotted budget was 9000/-. The coordinator for this FDP is **Mr. C. Veeranjanyulu, Asst.Professor of ECE Department.**Mr. C. Veeranjanyulu ,Asst.Professor, ECE Department was the main resource persons and the total no. of participants are 24.



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A one Week workshop on **Hands on training electronic equipment servicing** was held during the period of 5th to 9th Dec 2016 for which the allotted budget was 28000/-. The coordinator for this FDP is **Mr V Panduranga, Asst.Professor of ECE Department.** Mr V Panduranga, Asst.Professor of ECE Department was the main resource persons and the total no. of participants are 22.

A one Week workshop on **Hands on interfacing 8051 micro controller** was held during the period of 8th to 12th May 2017 for which the allotted budget was 9000/-. The coordinator for this FDP is **Mr.N.Bharadwaja, Asst.Professor of ECE Department.** Mr.N.Bharadwaja, Asst.Professor of ECE Department was the main resource persons and the total no. of participants are 23.

One Day Orientation Program on **“Computer Skills”** was held on 17th August 2016, the allocated budget was Rs.7000/- & One-day Orientation program on **“National Institutional Ranking Framework(NIRF)”** was held on 1st January 2017, the allocated budget was Rs.7000/-.



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CSE

The Department of CSE has conducted 9 Faculty Development Programmes and 1 training programs for the year 2017-2018. All the programs were conducted under the chairmanship of Principal Major Dr. V. A. Narayana and the convener ship of Dr.K.Vijaya Kumar.

One week faculty development Programme on Personality development was held during the period of 4th December to 6th December 2017, for which the allotted budget was Rs. 25000/-. The coordinator for this FDP is Mr L.Chandra shekhar Reddy, Assistant Professor Department of CSE, Mr.Messrs Pradeep from CyberDX Technologies was the main resource person and the total no. of participants are 50.

One week faculty development Programme on Grid and Cloud Computing was held during the period of 15th to 19th May 2017, for which the allotted budget was Rs. 18000/-. The coordinators for this FDP are Mr.K.Venkateshwara Rao Assoc. Prof and Ms. R. Suhasini Asst.Prof. Department of CSE. Mr.M.Rudra Kumar was the main resource person and the total no. of participant is 36.

One week faculty development Programme on Choosing Scholarly journals and guidelines To Publishing Scientific Articles was held during the period of 13th to 17th March, 2017, for which the allotted budget was Rs. 25000/-.The coordinators for this FDP is Mr. K. Vijaya Kumar professor and HOD dept of CSE. Dr.K.Venugopal was the main resource persons and the total no. of participant is 40.

One week faculty development Programme On Python Programming was held during the period of 6th to 10th February 2017, for which the allotted budget was Rs. 28000/-. The coordinator for this FDP is Dr vijaya kumar, Professor, Department of CSE, Dr.K.RamaKrishna was the main resource person and the total no. of participants are 25.

One week faculty development Programme on Teaching Methodologies was held during the period of 12th to 16th July 2016.The coordinator for this FDP is Mrs. K.L.S. Soujanya Associate Professor, Dept of CSE. Prof. Cornel Allella Amarendra Babu was the main resource persons and the total no. of participants is 40.

One weekfaculty development Programme on Introduction of R Programming was held during the period of 21th to 25th November, 2016, for which the allotted budget was Rs. 30000/-. The coordinator for this FDP is Dr.K.Rama Krishna Professor, Dept of CSE. Dr Mr.G.Kishore Kumar was the main resource persons and the total no. Of participants are 35.

One week faculty development Programme on Innovative Research Methodologies were held during the period of 12th to 16th September, 2016, for which the allotted budget was Rs. 22000/-The coordinators for this FDP are Mr.A.Vivekananda Asso.Professor,Mr. K. Venkateshwara Rao and Ms. N. Deepthi Assistant Professor, Department of CSE. Dr. P.V.D.Soma Sekhar was the main resource persons and the total no. Of participants are 25.

One week FDP on Advanced Methods in Data Science and Big Data Analytics was held during the period of 16th to 20th August 2016 for which the allotted budget was Rs. 29000 /-. The coordinators for this FDP are Dr.K.Rama Krishna Professor and Mr. K. Venkateswara Rao, Assistant Professor Department of CSE. Dr. Mohammed Umar Khan was the main resource persons and the total no. of participants are 32.

One week FDP on Android Programming was held on 19th to 23rd July 2016, for which the allotted budget was Rs. 25000/-. The coordinators for this FDP are Dr.K.Rama Krishna Professor and Mr. K.. Venkateswara Rao, Assistant Professor, Department of CSE. Dr. Ramesh was the main resource person and the total no. Of participants are 35.

One week FDP on Advanced Computer Network and Security was held on 11th to 15th July, 2016 for which the allotted budget was Rs. 4500/-. The coordinators for this FDP are Dr.K.Rama Krishna Professor, Mr.L.Chandra Sekhar, Asst. Professor Department of CSE. Dr .L .Narendra Kumar was the main resource persons and the total no. Of participants are 37.

One week FDP on Introduction to Hadoop (Horton Works) was held on 6th to 10th June, 2016 for which the allotted budget was Rs. 15,000/-. The coordinator for this FDP is Mr.K.Venkateshwara Rao



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Associate Professor, Department of CSE. Dr.J.Kiran Kumar was the main resource persons and the total no. Of participants are 35.

One week workshop on MS office was held during the period of 5th to 9th june 2017. The coordinator and resource person for this workshop is Mr.sivaskanda, Assistant Professor, Department of CSE. The total no. of participants are 30.

One week Workshop on C language was held during the period of 12th to 17th June 2017.The coordinator and resource person for this workshop is Mr.S.Gandendar Reddy, Assistant Professor, Department of CSE. The total no. of participants are 30.



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H&S

The Department of H&S has conducted 4 Faculty Development Programs and 2 training programs for the year 2016-2017. All the programs were conducted under the chairmanship of Principal Dr. M.Ramalinga Reddy and the convenorship of Dr V. A. Narayana.

A one week faculty development Program on Teaching and researching in ELT was held during the period of 04th to 8th December 2016, for which the allotted budget was Rs. 55,000/-. The coordinators for this FDP are Dr. Chandra Shekar Reddy, HOD H&S, Ms. Fathima Mary, Professor. Dr.Damodar is the main Resource person and the total no. of participants are 16.

A one week faculty development Program on Renewable and Biodegradable Polymer materials and Nano materials was held during the period of 5th to 9th July 2016, for which the allotted budget was Rs. 55,000/-. The coordinators for this FDP are Dr.V.A.Narayana, HOD H&S, Dr. Rama Mohan, Professor. Dr. Srinivasa Reddy the main resource person and the total no. of participants are 25

A one week faculty development Fundamentals of material science and its applications was held during the period of 25th to 29th July 2016, for which the allotted budget was Rs. 65,000/-. The coordinators for this FDP are Dr.V.A.Narayana, HOD H&S, and Ms Soma Mukhopadhyay Professor of Physics department, and the total no. of participants are 15.

A one week faculty development Program on Recent Trends in Mathematics and its Application was held during the period of 18th to 22nd December, 2016, for which the allotted budget was Rs. 52,000/-. The coordinators for this FDP are Dr.Chandra Shekar Reddy, HOD H&S . Dr. Narasimha Swamy was the main resource persons and the total no. Of participants are 21

A 3 day workshop on Administrative skills was held during the period of 19th to 21st June 2017, for which the allotted budget was Rs.20,000 /-. The coordinators for this training program is Ms.Neelima.The total no. of participants are 12.

A 3 day training Program on How to practice safety in engineering chemistry lab was held during the period of 9th to 11th January 2017, for which the allotted budget was Rs.25,000. The coordinators for this training program is Dr. Rama mohan. The total no. of participants are 25.



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MBA

List of Programmes organized in the MBA Department in the Academic year 2016-17:

1. FDP on "Business Analytics with R"
2. FDP on "Structural Equation Modelling"
3. FDP on "Case Study Analysis and Story Telling as Tools for Management Teaching"
4. FDP on Empowering Teachers through Technology
5. FDP on "Multivariate Techniques for Research"
6. FDP on TIFF- Temple Index of Functional Fluency

FDP on "Business Analytics with R" 04-07-2016 to 09-07-2016

About FDP:

This Faculty Development Program on Open Source Statistical Package R. What is R? R is a free software environment for statistical computing and graphics. Organizations are investing in tools to gather data at various touch points and want to reach newer markets, acquire new customers and get more out of the current resources with the information generated from this data.

This vast data in different formats and sources need specialised techniques and skills to make sense of it & provide insights for decision making. Business Analytics nurtures the amalgamation of data warehousing, data mining, statistics, and machine learning; applies it in various functional areas of business and management to find patterns in the relationships and creates capabilities for companies to compete in the market effectively.

Professional Certificate Program in Business Analytics has been designed for working professionals in the analytics domain to enhance their skills and learn advanced techniques and for the uninitiated to build their career in the business analytics domain. The program builds from the concepts and introduces advanced techniques like predictive analytics. It also covers contemporary topics including machine learning and its application in decision making.

FDP on "Structural Equation Modelling" 16-08-2016 to 20-08-2016

About FDP:

Structural equation modeling is one of the most useful and popular technique for testing the measurement theory and the structural relations among variables. It is a combination of factor analysis and regression analysis specifying the observed variables and the unobserved/latent variables with their errors in measurement that are not observed in many multivariate analyses. It is a family of techniques that covers factor analysis, path analysis, regression models, and change analysis. Expose participants to a select set of multivariate statistical tools and data mining approaches that would aid in taking key management decisions in Industry. Provide participants an opportunity to gain



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experience in using State- of- the-art statistical software in concrete management situations. Introduce key concepts of data mining through lab to provide hands –on experience with most popular procedures for data mining in the familiar excel environment. The objective of the FDP is to provide hands on experience to the participants in analyzing and interpreting data using statistical software. The participants will learn about the use of various multivariate methods in research, how to design the study to collect data amenable for such analysis.

FDP on "Case Study Analysis and Story Telling as Tools for Management Teaching" 17-10-2016 to 21-10-2016

About FDP:

The FDP helps Faculty Members to gain an insight about Case study method of teaching as a pedagogical tool in teaching methodology, as this method has become an inherent part of course curriculum both at the National as well as International level.

Case writing is an art and a story telling, making the audience thirsty for the product .Content, compatibility, multiple perspectives, explicit/Implicit concepts are tenets of case teaching & writing.

Cases are customarily being utilized while teaching students concerning higher order thinking like critical analysis and elucidation. Having done so, this sort of active learning and engaging exercise draws in tackling real time issues causing students to better apply what they learn to similar problem situation. Despite the fact that writing cases is a testing assignment, the learning outcomes that originate from their utilization are rewarding. This workshop will concentrate on the three key areas of figuring out how to facilitate with case studies, writing own cases and using cases as to enhance teaching abilities. This workshop will empower participants to reveal how cases might be coordinated with lectures and different class exercises or they might in like manner be utilized stand-alone. By looking at how one needs the case to bolster ones teaching and students' learning, one will have the capacity to choose what case must do and how one ought to write the case. Whether one is new to this technique or needs to enhance teaching skills, this workshop will qualify the participants to create confidence, certainty and abilities to end up a powerful case instructor.

FDP on Empowering Teachers through Technology: 05-12-2016 to 10-12-2016

About FDP:

FDP facilitates learning globally validated and recognized technology training programs, thereby empowering teachers with the priceless global recognition. The program aims at fostering self-development within teachers and acquainting them with the different dimensions including technology, in the field of education. The training programs are based on self-assessment. Additionally, the training



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is an opportunity to get recognized by Microsoft, as it involves a lot of Microsoft application training programs.

Management Graduates of Today need to be critical thinkers, problem solvers, team players, effective communicators, life-long learners and innovators in order to be globally competitive. As most of the graduates do not possess these attributes to the expected levels, their employability is very low. The Instructional methods that were followed in 20th century are inadequate for preparing the graduates to meet the above mentioned skills and attributes. Hence, there is a need to develop relevant 'Teaching Competencies' among the faculty members in Technical Education. Advent of several ICT tools has paved the way to the emergence of a number of learner-centered methods of instruction. Today e-Learning, Blended learning, Cooperative learning, Active learning have become buzz words in the teaching-learning process. Teachers, who are familiar with these new approaches to students' learning, will be able to develop desirable attributes in them. In this back ground, this six-day faculty development programme on "New Pedagogic Techniques in Technical Education" is organized with the following objectives. To enable the Faculty of Technical Education to learn new pedagogic techniques. To empower the participants with the required teaching competencies, skills and attitudes. To enable the participants to integrate ICT tools in teaching, To provide the participants with experiential learning through simulated teaching practice and analysis.

FDP on "Multivariate Techniques for Research" 03-01-2017 to 07-01-2017

About FDP:

This FDP has the objective of introducing the participants with different techniques of handling multivariate data related to quantitative decision making problems. The course delivery will be a perfect mix of theory (why) and applications (what) so that the participants not only get to know and interpret different software outputs, but assimilate the underlying assumptions, logic and theory behind the outputs. Emphasis will be given on concept build-up with statistical rigour and analysis of managerial data with appropriate multivariate statistical methods with the help of statistical software Minitab/SPSS/R. Understand the basic principles, concepts and problems in multivariate data analysis. Apply appropriate multivariate statistical technique through better understanding. Demonstrate different outputs of the data analysis through statistical software. Basic Probability and Statistics, Introduction to multivariate set up and basic matrix algebra, Multiple regression, variable selection, regression diagnostics, model adequacy, Analysis of variance (one and two ways) and basics of design of experiment, Binary and multinomial logistic regression, Principal component analysis and Factor analysis, Linear discriminant analysis, Cluster analysis.



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FDP on TIFF- Temple Index of Functional Fluency 06-02-2017 to 10-02-2017

About FDP:

An interactive workshop/FDP organized for all the faculty members of CMRCET on 06.02.2017 & 10-02-2017 by Prof Shikha Sindhu - Certified Trainer - TIFF- Temple Index of Functional Fluency. Faculty members actively participated in the discussion on important behavioral aspects and methods of maintaining the balance between personality traits and professional behavior . Lot of learning took place through activities like role plays, games and skit performances.

Functional Fluency is a model for mapping patterns of communication. It gives a framework for learning how to build positive and effective relationships. Functional Fluency in action is the use of those positive and flexible ways of responding to each other that aid effective communication. It is about “response-ability”; about how to choose 'responses' rather than just 'react' automatically. The purpose of the model is to promote empowering leadership, from which everyone benefits, and creative collaboration in which people enjoy working together productively. The focus, as in Appreciative Inquiry and Solution Focus approaches, is on what already works well and how to develop it. Self-awareness and understanding, especially of behaviour for relationship management, are of key importance for mentors and coaches. Self-awareness and understanding enhance objectivity and promote empathy, making it easier to tune in to the client's world and choose appropriate responses. These skills of emotional literacy that come from personal development are then the professional tools for the coaching context. Models that enhance these abilities are invaluable for mentors and coaches. Most useful are those that translate quickly and easily into practice and provide a language for talking about behaviour and communication in ordinary, everyday terms.



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EXAMINATION BRANCH

Date: 05-07-2016

Report on Faculty & Staff Awareness Program on Examination System

An awareness program on "Faculty & Staff awareness program on examination system" has been successfully organized on 04-07-2016 in CSE seminar hall. The speakers covered various important points such as Academic Regulations, credit system examination activities and evaluation process. The faculty and staff members of all departments have attended and got benefited with this program.

(Dr. M. Narsi Reddy)
Controller of Examinations
Controller of Examinations
CMR College of Engineering & Technology
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Outcomes of the Faculty Development Program Cell:

- It helped in enriching the faculty vitality in key domains of teaching, assessing, research, professionalism, and administration is perceived to improve educational environment significantly and enhances the academic performance of learners to strengthen the CMR College of Engineering & Technology.
- The Faculty Development program Cell regularly conducted faculty empowerment programs. Teachers have a repertoire of effective teaching strategies and used them to implement well-designed teaching programs and lessons. They regularly evaluate all aspects of their teaching practice to ensure they are meeting the learning needs of their students
- Every time a faculty comes out of a FDP & training programme, the student community feels the difference in teaching skills, depth of knowledge and teaching pedagogy used by the faculty in the class room. The CMR College of Engineering & Technology
- FDP Cell program designed and delivered programs effectively enrich faculty out comes in the following modes:
 - Begin with a clear vision (Structural Empowerment)
 - Maintain the right perspective (New Knowledge, Innovation, Improvements)
 - Network (Transformational Leadership)
 - Be responsive and take the initiative (Professional Practice)
 - Exhibit integrity (Empirical Quality Results)


Convener