



SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
Sree Sainath Nagar, Tirupati – 517 102, A.P.
DEPARTMENT OF MECHANICAL ENGINEERING

**A report on two-day national workshop on
“ADVANCED FINITE ELEMENT APPLICATIONS IN
DESIGN”**

1st - 2nd September, 2016

(Under TEQIP-II)

Two Day National Workshop on **“Advanced Finite Element Applications in Design”** was conducted during 1st – 2nd September, 2016 in Mechanical Engineering Department. The workshop was inaugurated by lightening lamps by the Chief Guest **Dr.P.Ravinder Reddy**, Professor, CBIT, on 1st Sept 2016 at 9.00 AM. The convener of the program Mr. M Gangaraju had given the brief introduction of the workshop. A keynote speech was delivered by the Chief Guest on FEM applications and its importance. The course work started at 9:30 am after the completion of inauguration.

The Chief Guest Dr.P.Ravinder Reddy started his valuable lecture with entitle of “Dynamic analysis of structural problems” and some important concepts which mainly focused on stress strain diagrams, theory of failures, mechanical behavior of materials, structural and dynamics of analysis, continuum mechanics and plane stress and plane strain. He also explained the concepts related to industrial and research oriented problems.

Continuity of the morning session, Mr. M.Vijay Sekhar Babu, Associate Professor, Department of Mechanical Engineering, GMRIT, given his valuable lecture on classifications of methods available for field FEA problems, major steps for using FEA analysis. He also covered the concepts on 2D- Idealizations, solids of revolutions and plane stress problems in ANSYS with procedure of solving simple problems.

The second day of the course started by Dr.V.V. Subba Rao, Professor Mechanical Engineering, JNTUK, Kakinada. Dr.V.V. Subba Rao started his valuable lecture with basic steps of FEM which includes Material Modelling of laminated composite plates having different layups in ANSYS and validation of results in static case. He also delivered the concepts related to research oriented in composites and related softwares available for analysis.

Continuity of the morning session Dr. K.C.Varaprasad, Professor & Head, Dept. of Mechanical Engineering, SVEC, delivered his lecture on modeling of

structural problems using Hypermesh, import and export of models in to Hypermesh. Certificates are distributed in the valedictory function



Dr. P.Ravinder Reddy, Professor, CBIT Hyderabad, inaugurating the programme



Dr. P.Ravinder Reddy, Professor, Department of Mechanical Engineering, CBIT Hyderabad delivering a Lecture on dynamic analysis of structural problems.



**Mr. M. Vijay Sekhar Babu, Associate Professor, GMRIT
Delivering lecture on Plane stress problems.**



**Dr. V V Subba Rao, Professor, Department of Mechanical Engineering,
JNTUK, Kakinada, delivering a lecture on composite modeling**



Dr.K.C.Varaprasad, Professor & Head, Dept. of Mechanical Engineering, clarifying the doubt expressed by the participants



Valedictory Session



Certificates Distribution to the participants



Group Photo with participants of the Program

A report on
“START-UP’S FOR BRIGHT NATION AND
IMPORTANCE OF COPYRIGHTS AND TRADEMARKS”

(Expert Lecture)

22nd October, 2016

Mr. Kiran Kumar on his session on “Start-up’s for Bright Nation and importance of copyrights and trademarks” delivered below points to the students of Mechanical Engineering on 22nd Oct 2016.

- Start-up’s is the best option to start a job career after college.
- In Start-up every employee is a thinker and do-er, where as in MNC’s only top management think and rest employees have to act.
- Start-up’s only look for young unlike MNC look for experienced.
- Startup India is a flagship initiative of the Government of India, intended to build a strong ecosystem for nurturing innovation and Start-ups in the country.
- Indian startups aim is to promote entrepreneurship, construct entrepreneurial competences at scale and strengthen early phase support for startups by gathering together key stakeholders of the network including startup incubators / accelerators, angel investors, venture capitalists, startup support groups, mentors and technology corporations.
- Incubation centers have emerged as a vital source of investment and support for new businesses and foster youthful firms, helping them to survive in their early phase. Incubators offer infrastructural support, stage to do networking, administrative assistance and other supportive activities to start new business.
- Mr. Kiran also mentioned that Intellectual Property Rights play a crucial role as the legal vehicle through which either the transfer of knowledge or the contractual relationship is effected. Alternatively, knowledge may be

exploited in-house, in which case the role of IPRs is to block imitating competition.

- Commercialization can be defined as the process of turning an invention or creation into a commercially viable product, service or process. Commercialization may require additional R&D, product developments, clinical trials or development of techniques to scale-up production prior to taking the results of research to market.

This is important because not all inventors or creators wish or have the resources, skill and appetite for risk to commercialize their own inventions or creations.

Converting an original or new idea, concept or design to a desired product available in the marketplace requires:

- Time
- Funds (own or borrowed)
- Creative effort
- Innovative effort (own, of employees and of external collaborators, partners, advisors and consultants)
- Persistence
- Focused management of the entire process from idea to market.

Students of Mechanical Engineering enriched with the contents delivered by Mr. Kiran Kumar on Start-Up's for Bright Nation and Importance of Copyrights and Trademarks.



Mr. Kiran Kumar addressing the students on Start-ups and IPR



Students of Mechanical Engineering listening to the lecture



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A report on one week workshop on “THERMAL ENERGY SYSTEMS-OPTIMIZATION OF DESIGN FOR FLUID FLOWS AND HEAT TRANSFER”

19th - 23rd December, 2016

(Under TEQIP-II)

One week workshop on “Thermal Energy Systems-Optimization of Design for Fluid Flows and Heat Transfer” was conducted during 19th - 23rd, December, 2016 in Mechanical Engineering Department. The workshop was inaugurated by lightening lamps by the Chief Guest Dr.C.Balaji, Professor of Mechanical Engineering, IIT Madras, on 19th, December, 2016. The convener of the program Dr. Hariprasad Tarigonda has given the brief introduction of the workshop. A keynote speech was delivered by the Chief Guest on Thermal Energy Systems-Optimization of Design



for Fluid Flows and Heat Transfer. The course work of the workshop started after the completion of inauguration.

Day 1 (19-12-2016): In the morning session, Dr.C.Balaji, Professor of Mechanical Engineering, IIT Madras delivered a lecture on Advances in Heat Transfer. He explained the recent developments in the field of heat transfer. He also explained the research works happening in the heat transfer laboratory of IITM. He emphasized the importance of the optimization in the design of thermal systems. In the afternoon Session, Prof. T. Srinivas, VIT University, Vellore delivered a lecture on solar energy, exergy analysis, trigeneration and MAT Lab coding. He explained about the effective utilization of solar energy, exergy analysis applied to various thermal systems and its design optimization with MAT Lab coding.

Day 2 (20-12-2016): In the morning session, Prof. R. Thundil Karuppa Raj, VIT University, Vellore given lecture on Numerical Analysis of Fluid Flows & Heat Transfer and also Hands on practice was provided to participants. In the afternoon session, he explained about the ansys software tool window in detail. ICMCFD tool in used for model creation and for meshing. The participants practiced various models and various meshing generation techniques with quality check.

Day 3 (21-12-2016): In the morning session, Dr. Kulasekaran from Fiat Chrysler Automobiles, Chennai delivered a lecurer on simulation of thermal energy systems. He explained the Ansys fluent tool in detail and various commands used in the ansys fluent tool. Later various simulation of thermal systems were explained in Ansys fluent tool. In the afternoon session, the participants practiced simulation of various models for different boundary conditions in the ansys fluent tool.

Day 4 (22-12-2016): In the morning session, Dr.Prasad Patnaik, Professor, IIT Madras, Chennai delivered a lecture on turbulent flows and its application in heat transfer. He explained the various governing eguations of fluid flows and heat transfer.He discussed the importance of turbulence in variuos applications of fluid flows and heat transfer. In the afternoon session, Dr. M. Suresh from SSN College of Engineering, Chennai given lecture on Heat pipes. He discussed the fabrication methods of heat pipes and its various practical applications. He explained about various thermal energy systems developed with application of heat pipes.

Day 5 (23-12-2016): In the morning session, Dr. P. Karthikeyan from PSG – Tech, Coimbatore given lecture on Fuel cell. He discussed the concepts of fuel cell and its various applications. He shown the some of the fuel cells wich are developed in their Lab. He explained the various materails used for manufacturing of fuel cells. In the afternoon session, Dr. N. Nallusamy from SSN College of Engineering, Chennai deliverd a lecture on Thermal energy storage systems. He explained about the various fluids used for thermal energy storage and various mehtods used for storing the thermal energy and analysis of various thermal energy systems. Finally Validictory function and certificate distribution was conducted.



Dr.C.Balaji, Professor of Mechanical Engineering, IIT Madras delivering lecture on Advances in Heat Transfer & Fluid Flows



Prof. T. Srinivas from VIT University, Vellore giving lecture on Solar energy and exergy analysis



Prof. R. Thundil Karuppa Raj from VIT University, Vellore giving hands on practice on Numerical Fluid Flows & Heat Transfer



Dr. Kulasekaran from Fiat Chrysler Automobiles, Chennai giving hands on practice on simulation of Thermal energy systems



Dr. Prasad Patnaik, Professor, IIT Madras, Chennai delivering lecture on turbulence and its application in heat transfer



Dr. M. Suresh from SSN College of Engineering, Chennai delivering lecture on Heat Pipes



Dr. P. Karthikeyan from PSG – Tech, Coimbatore discussing the concepts of Fuel cells



Dr. N. Nallusamy from SSN College of Engineering, Chennai in the session on Thermal energy storage systems