

Department of Mechanical Engineering

MINUTES of 17<sup>th</sup> Meeting of the Board of Studies held on  
09<sup>th</sup> July, 2022 at 11.00 a.m. (Online mode)  
Google meet Link: [meet.google.com/qvp-fajx-bfi](https://meet.google.com/qvp-fajx-bfi)

Venue: Seminar Hall, Department of Mechanical Engineering,  
National Engineering College

**National Engineering College, K.R.Nagar, Kovilpatti– 628503**

*(An Autonomous Institution -Affiliated to Anna University, Chennai)*

[www.nec.edu.in](http://www.nec.edu.in)

**17<sup>th</sup> Board of Studies Meeting  
Department of Mechanical Engineering**

Venue: Seminar Hall, Department of Mechanical Engineering,  
National Engineering College

Date & Time: 09.07.2022 & 11.00 a.m.

Online Mode

Google Meet Link: [meet.google.com/ qvp-fajx-bfi](https://meet.google.com/qvp-fajx-bfi)

**AGENDA**

BoS / MECH17.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the department of Mechanical Engineering
BoS / MECH17.2	:	Action taken report of 16 <sup>th</sup> meeting of Board of Studies
BoS / MECH17.3	:	Business brought forward by the Chairman, Board of studies
		17.3.1 Syllabus for Open Elective Courses Regulation 2019.
		17.3.2 Approval for List of Examiners
BoS / MECH17.4	:	Suggestions given by the BOS Members
BoS / MECH17.5	:	Any other items

**National Engineering College, K.R.Nagar, Kovilpatti – 628 503**  
(An Autonomous Institution - Affiliated to Anna University, Chennai)

F. No. 1-1/NEC/MECH

09<sup>th</sup> July, 2022

Dear Sir/Madam,

**Sub: Minutes of the 17<sup>th</sup> Meeting of the Board of studies in the Mechanical Engineering - Reg.**

Kindly find attached herewith the Minutes of the 17<sup>th</sup> Meeting of Board of studies of the Mechanical Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628503 held on 09<sup>th</sup> July 2022 at 11.00 a.m. (Online mode) in Seminar Hall, Department of Mechanical Engineering, National Engineering college. Hard copy of the Minutes is also being sent to you by speed post.

It is requested that comments on the Minutes, if any, may please be sent by email at [hodmech@nec.edu.in](mailto:hodmech@nec.edu.in) or by post, at the earliest. If no comments are received, within ten days, the Minutes shall be taken as confirmed. With Kind Regards,

Yours Sincerely,

*h.u - 82*  
(Dr.K.Manisekar)

**National Engineering College, K.R.Nagar, Kovilpatti – 628 503**  
(An Autonomous Institution - Affiliated to Anna University, Chennai)

**Department of Mechanical Engineering**

**MINUTES OF THE MEETING**

The 17<sup>th</sup> Meeting of the Board of studies of the Mechanical Engineering was held on 09<sup>th</sup> July 2022 at 11.00 a.m. (Online mode - Google Meet Link: meet.google.com/ qvp-fajx-bfi) in the Seminar Hall, Department of Mechanical Engineering, National Engineering College, K.R.Nagar, Kovilpatti – 628 503

1. The following members were present

1.	Dr. K.Manisekar, Professor & Head	Chairman
2.	Dr. Tamilselvi, Deam Academic	Internal Members
3.	Dr. S.Iyah Raja, Professor	
4.	Dr. D.Venkat Kumar, Professor	
5.	Dr. R.Harichandran, Professor	
6.	Dr. D.Vignesh Kumar, Asst. Prof. (S.G)	
7.	Dr. P.Ramanan, Asst. Professor (S.G)	
8.	Dr. F.Michael Thomas Rex, Asst. Prof. (S.G)	
9.	Mr. R.Vijaykumar, Asst. Prof. (S.G)	
10.	Mr. A.Arul Marcel Moshi, Asst. Prof. (S.G)	
11.	Dr. T. Sakthi, Asst. Prof. (S.G)	
12.	Mr. B.Prince Abraham, Asst. Professor	
13.	Mr. K.Thoufiq Mohammed, Asst. Professor	
14.	Dr. W.Beno Wincy, Asst. Professor	
15.	Dr. N.Karthikeyan, Asst. Professor	
16.	Mr. S.S.Ananthan, Adjunct Faculty	
17.	Dr. G.Kumaresan Deputy Director (Research) & Associate Professor Institute for Energy Studies, CEG, Anna University, Chennai	Academic Experts

18.	Dr.-Ing. M. Duraiselvam Professor / Production Engineering, National Institute of Technology, Trichy	Academic Experts
19.	Dr.A.Arockiarajan Professor / Applied Mechanics, Indian Institute of Technology, Chennai	
20.	Mr. R. Kanda Subburaj Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	Industrial Experts
21.	Mr. P. Muniyandi, Principal Scientific Officer, Controllerate of Quality Assurance (Ordnance Factory Vehicles), Jabalpur - 482 009, Madhya Pradesh.	
22.	Mr. P. Sriram, Joint Executive President, Ultratech in Aditya Birla Group, Pune, Maharastra.	
23.	Mr. Sivaram Sundaram, Senior Director, Comcast India Engineering Centre, Thoraipakkam, Chennai - 97	
24.	Mr. Anadhavel, III Year Student	
25.	Mr. Sivakumar G, III Year Student	Student Members

2. The Industrial Expert Member Dr.D.Mohanlal, Professor, Department of Mechanical Engineering, CEG campus, Anna university, Chennai and University Nominee Dr. K.Murugan, Scientist-E, Centre for Sol-Gel coatings, ARCI, Hyderabad, Telangana could not attend the meeting due to their prior commitments and unavoidable reasons and they were granted leave of absence.

BoS / MECH17.1	:	WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF MECHANICAL ENGINEERING
		The Chairman, BOS of the Mechanical Engineering welcomed and introduced the members of 17 <sup>th</sup> Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.
BoS / MECH 17.2	:	TO CONFIRM THE MINUTES OF SIXTEENTH BOS MEETING HELD ON 27 <sup>th</sup> November, 2021
		The minutes of the Sixteenth Board of Studies meeting held on 27 <sup>th</sup> November, 2021 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 16 <sup>th</sup> Academic council. (Enclosed in Annexure – I)
BoS / MECH 17.3.1	:	TO CONFIRM AND APPROVE the open elective courses under Regulation 2019. (Enclosed in Annexure – II)
BoS / MECH 17.3.2	:	TO CONFIRM AND APPROVE the List of Examiners – B.E. Mechanical Engineering Programme under Regulation 2019. (Enclosed in Annexure – III)
BoS / MECH 17.4	:	Suggestions Given by the Members
17.4.1	:	<p>“Project Management and Finance”</p> <ul style="list-style-type: none"> <li>• Finance management shall be considered to be offered as an exclusive elective.</li> <li>• The topic Big data analytics in the unit 3 was suggested to be removed considering the relevance.</li> <li>• Financial feasibility, analytics and capital budgeting shall be included.</li> <li>• Product based mini projects shall be offered to the students.</li> </ul>

17.4.2	:	“Indian Economy” – The Syllabus coverage shall be ensured in the listed reference books.
17.4.3	:	<p>“Sustainable developments and practices” - Suggested to include the below listed protocol</p> <ul style="list-style-type: none"> <li>• green initiatives of Indian government,</li> <li>• green house gas emission reduction,</li> <li>• Renewable energy initiatives.</li> <li>• 17 goals of sustainable development.</li> </ul>
17.4.4	:	“Women in Indian Society” – Suggested to add women in technology and education.
BoS / MECH 17.5	:	<b>Any other items</b>
17.4.6	:	<p>R-2019 – Project Phase - I and Project Phase – II</p> <ul style="list-style-type: none"> <li>• The quality of projects and involvement of faculty and the external supervisors from industry shall be ensured.</li> <li>• Suggested to redefine the process of project.</li> <li>• Suggested to brainstorm the project batches in the 5<sup>th</sup> semester itself.</li> </ul> <p>Curriculum structure for R-2023 has been discussed.</p> <ul style="list-style-type: none"> <li>• Suggested to include AI, ML Machine vision topics in core subjects.</li> <li>• Suggested to provide programming basics to the students.</li> <li>• Suggested to provide industry related problems as student projects.</li> </ul>

The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the curriculum and syllabus of R-2019.

Based on the suggestions given by the members, BOS resolved to recommend the Syllabus for open elective course courses – B.E. Electrical and Electronics Engineering Programme under Regulation 2019 to the Academic Council for further approval.

Dr. S.Iyahraja, Professor / Mechanical Engineering thanked all the members for their kind cooperation and the meeting came to an end.


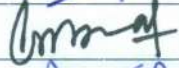
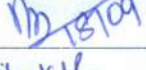

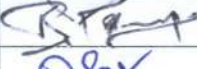

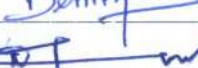
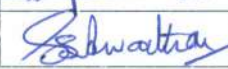


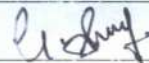
Members Present Online


Dr. G.Kumaresan Deputy Director (Research) & Associate Professor Institute for Energy Studies, CEG, Anna University, Chennai	Academic Experts
Dr.-Ing. M. Duraiselvam Professor / Production Engineering, National Institute of Technology, Trichy	
Dr.A.Arockiarajan Professor / Applied Mechanics, Indian Institute of Technology, Chennai	
Mr. R. Kanda Subburaj Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	Industrial Experts
Mr. P. Muniyandi, Principal Scientific Officer, Controllerate of Quality Assurance (Ordnance Factory Vehicles) Jabalpur- 482009 Madhya Pradesh.	
Mr. P. Sriram, Joint Executive President, Ultratech in Aditya Birla Group, Pune, Maharastra.	
Mr. Sivaram Sundaram, Senior Director, Comcast India Engineering Centre, Thoraipakkam, Chennai- 97	

Members Present

<u>Chairman</u>	
Dr. K.Manisekar, Professor & Head	K.U - 82
<u>Internal Members</u>	
Dr. Tamilselvi, Deam Academic	
Dr. S.Iyah Raja, Professor	J. Iyah Raja
Dr. D.Venkat Kumar, Professor	D.V. Venkat Kumar
Dr. R.Harichandran, Professor	R. Harichandran
Dr. D.Vignesh Kumar, Asst. Prof. (S.G)	D. Vignesh Kumar



Dr. F. Michael Thomas Rex, Asst. Prof. (S.G)	
Mr. R. Vijaykumar, Asst. Prof. (S.G)	
Mr. A. Arul Marcel Moshi, Asst. Prof. (S.G)	
Dr. T. Sakthi, Asst. Prof. (S.G)	
Mr. B. Prince Abraham, Asst. Professor	
Mr. K. Thoufiq Mohammed, Asst. Professor	
Dr. W. Beno Wincy, Asst. Professor	
Dr. N. Karthikeyan, Asst. Professor	
Mr. S. S. Ananthan, Adjunct Faculty	
<u>Student Members</u>	
Mr. Anadhavel, III Year Student	
Mr. Sivakumar G, IV Year Student	

  
 CHAIRMAN  
 BOARD OF STUDIES

## ANNEXURE – I

### Action taken for Minutes of 16<sup>th</sup> BoS Meeting

Sl.No	Suggestions by BOS Committee	Action Taken
1.	“19ME42E - Operations and Production Management” programme elective course title may be changed as “Production and Operations Management”	Title changed and Incorporated in syllabus
2.	Safety standards for working in Heights, lifting heavy materials, confined spaces, Heavy voltage area can be included in “19ME48E - Industrial Safety Engineering” programme elective course.	Topics were included in “Industrial Safety Engineering” course
4.	Drones and Automated Guided Vehicle (AGV) topics may be added in the “Introduction to robotics” open elective course.	Drones and Automated Guided Vehicle (AGV) is added in “Introduction to robotics”
5.	Stages of PLM, Marketing techniques related PLM, financial aspects of PLM, case studies with specific applications. Application Lifecycle Management (ALM) topics may be included in “Product Lifecycle Management” open elective course.	The topics were included in “Product Lifecycle Management”
6.	The concept of prototyping may be elaborated in “Product Development Laboratory” integrated course.	Incorporated
7.	The robotic specialization courses may be taught effectively by using a Mini robot and robot simulation software.	Yet to be implemented
8.	<p>Credit transfer of open online courses other than NPTEL (like Udemy, Coursera etc.,)</p> <p>a) Students can register the courses from the open online forum (like Udemy, Coursera etc.,) with prior guidelines given by the Dean Academic with the approval of Head of the department.</p> <p>b) For internal marks, continuous assessments can be considered which is conducted by the Udemy, Coursera etc.,</p> <p>c) For external marks, external assessment can be conducted as a separate exam for the selected courses. Before conducting the exam, it is to be ensure that the question</p>	Implemented

### ANNEXURE III

#### List of Board of Examiners approved by Board of Studies

Sl.No	Name of the Expert	Designation	Institutional Address	Contact Details (Mobile No. & Email id)	Experience	Area of Specialization
<b>THERMAL DOMAIN</b>						
1	Dr. M. Udayakumar	Professor, Dept. of Mech. Engg.	National Institute of Technology, Tiruchirapalli	muday@nitt.edu 0431-2503405, 9487257871	35 years	Thermodynamics, I.C.Engines, Combustion, Fluid Power Systems and Control
2	Dr. V. Arul Mozhi Selvan	Associate Professor, Dept. of Mech. Engg	National Institute of Technology, Tiruchirapalli	98949 20835 arulmozhi@nitt.edu	21 years	Nanoparticle Additives, Bio-Fuels, Renewable Energy Technology, Energy Conservation and Management
3	Dr. Babu. S	Associate Professor, Dept. of Mech. Engg	PSG College of Technology, Coimbatore	9865808756 babu.mech@psgtech.ac.in	13 years	Hybrid renewable energy systems, Thermal energy storage with phase change materials, Heat exchanger.
4	Dr. M.Venkata Ramaran	Professor Director, Institute for Energy Studies	CEG, Anna University, Chennai-600025	044-22357755 venkat@annauniv.edu 9444221034		Biomass Gasification, Energy Conservation & Management
5	Dr.K.Srithar	Professor, Dept. of Mech. Engg.	Thiagarajar college of Engineering, Madurai	ponsathya@hotmail.com 9842185302	31 years	Solar Thermal & Heat transfer, Alternate fuel

6	Dr.V.Balasubramani	Associate Professor, Dept. of Mech. Engg.	Thiagarajar college of Engineering, Madurai	vbmech@tce.edu 9843147747	22 Years	Composite Materials and Vibration Analysis
7	Dr.P.Maran	Professor, Dept. of Mech. Engg.	Thiagarajar college of Engineering, Madurai	pmmech@tce.edu 9842120830	28 years	Thermal Science CFD and Applications
8	Dr. S.P.Asok	Professor, Dept. of Mech. Engg.	Mepco Schlenk Engineering College, Sivakasi	asoksp@yahoo.com 9443011358	32 Years	Thermal Engg., Heat and Mass transfer, Refrigeration and Airconditioning
9	Mr. S.Ananthakumar,	Assistant Professor, Dept. of Mech. Engg.	Government College of Engineering, Tirunelveli	ananthakumar@gcetly.ac.in 9791252169	9 years	Thermal Engineering
10	Mr. S.Somesh Subramanian	Assistant Professor, Dept. of Mech. Engg.	Government College of Engineering, Tirunelveli	someshsub@yahoo.co.in 9443909787	9 years	Thermal Engineering
11	Dr.P.Selvakumar	Associate Professor, Dept. of Mech. Engg.	Kongu Engineering College , Erode	selvakumar@kongu.ac.in, selvakumar.mech@kongu.edu 9566341992	20 years	Thermal Engineering, Solar Energy, Heat Transfer, CFD
12	Dr.S.Thirumuruga Veerakumar	Assistant Professor, Dept. of Mech. Engg.	Kumaraguru college of Technology	thirumurugaveerakumar.s.mec@kct.ac.in	15 years	Thermal Analysis on bus bar casing to Benchmark compact structure
13	Dr.K.Arun Balasubramanian	Professor, Dept. of Mech. Engg	Sethu Institute of Technology, Kariapatti	karunbala@sethu.ac.in aarunkab@yahoo.co.in	16 years	I.C Engines

14	Dr.S.Raja kumar	Assistant Professor, Dept. of Mech. Engg.	Anna University Regional Campus – Tirunelveli,	rajkumar1998@yahoo.co.in 9894307215	20 Years	Energy Engineering
15	Dr.A.Manivannan	Assistant Professor, Dept. of Mech. Engg.	Anna University Regional Campus – Tirunelveli,	Manivannan461@gmail.com 8838190761		Energy Engineering
MANUFACTURING DOMAIN						
16	Dr.-Ing. M. Duraiselvam	Professor, Dept. of Production Engineering	National Institute of Technology, Tiruchirapalli	Email: durai@nitt.edu Ph: +91-431-2503509	22 years	Laser cladding, Liquid impact erosion, Synthesis of nano composites, Process optimization
17	Dr. Nanda Naik Korra	Associate Professor, Dept. of Mech. Engg.	National Institute of Technology, Tiruchirapalli	Email: naik@nitt.edu	16 years	Activated Tungsten Inert Gas (A-TIG) Welding Process, Design of Experiments (DoE), Duplex Stainless Steel Alloys
18	Dr. S.Senthilkumaran	Professor, Dept. of Mech. Engg.	CEG, Anna University, Chennai-600025	tel:044-22357745 metrosenk@annauniv.edu		Metal Casting Physical, Metallurgy, Cellular manufacturing Systems
19	Dr. G. Selvakumar	Associate Professor, Dept. of Mech. Engg.	Sri Sivasubramaniya Nadar (SSN) College of Engineering, Kalavakkam, Chennai - 603110	selvakumarg@ssn.edu.in 9489581665	20 years	Advanced Manufacturing Systems & Engineering Management
20	Dr. N. Selvakumar	Senior Professor, Dept. of Mech. Engg.	Mepco Schlenk Engineering College, Sivakasi	9443867775 nselva@mepcoeng.ac.in	32 Years	Industrial Metallurgy, Powder Metallurgy, Nano composites.

21	Dr. S.Saravana Perumaal	Assistant Professor (Aided), Dept. of Mech. Engg.	Thiagarajar college of Engineering, Madurai	sspmech@tce.edu 9944461010	18 years	Manufacturing Engineering,
22	Dr.R.Deivasigamani	Professor, Dept. of Mech. Engg.	Kongu Engineering College, Erode	Email: rdeiva@kongu.ac.in Mobile: 9443504573 Office: 04294-226711	37 years	Manufacturing Engineering
23	Dr.D.Jebakani	Professor (CAS), Dept. of Mech. Engg.	Government College of Engineering, Tirunelveli	jebakani@gcetly.ac.in 9944253810	23 years	Industrial Engineering Optimization, Computer Aided Design, Reliability Quality Engineering
24	Dr.A.Krishnaveni,	Professor (CAS)	Government College of Engineering, Tirunelveli	krishnaveni@gcetly.ac.in 9894182237	21 years	Probabilistic Fracture mechanics, Reliability Analysis, Reliability Based Design
25	Dr. J.Aldrin Raj	Assistant Professor, Dept. of Mech. Engg.	Government College of Engineering, Tirunelveli	aldrin@gcetly.ac.in 9486643388	11 years	Industrial Engg.
26	Dr. M.S.Starvin	Assistant Professor (Sr.Gr), Dept. of Mech. Engg.	University College of Engineering - Nagercoil	9486865043 mstarvin@gmail.com	17 years	Finite Element Analysis, Computational Fluid Dynamics, Contact Mechanics, Tribology, Composite Materials, Fracture Mechanics, Additive Manufacturing

27	Dr.C.Velmurugan	Professor, Dept. of Mech. Engg.	Kumaraguru college of Technology	velmurugan.c.mec@kct.ac.in	25 Years	Composite Materials
28	Dr.P.K.Giridharan	Professor, Dept. of Mech. Engg.	Kumaraguru college of Technology	giridharan.pk.mec@kct.ac.in	24Years	Welding
29	Dr.S.Bhaskar	Associate Professor, Dept. of Mech. Engg	Kumaraguru college of Technology	bhaskar.s.mec@kct.ac.in	20 Years	Industrial Engineering
30	Dr.A.Azhagurajan,	Associate Professor	Mepco Schlenk Engineering College, Sivakasi	aazhagu@mepcoeng.ac.in 9486991085	20 Years	Industrial Safety Engg.
31	Dr. R. A. Malairajan	Assistant Professor & Head i/c	The University V.O.C. College of Engineering Thoothukudi, Anna University	Email : ramalairajan@gmail.com Mobile : 9942394141 Phone : 0461-2310044	16 years	Industrial Engg.
32	Dr.S.Amal Bosco Jude	Assistant Professor	The University V.O.C. College of Engineering Thoothukudi, Anna University	Email : sabjude81@rediffmail.com Mobile : 9894148960 Phone : 0461-2310044	12 years	Manufacturing and Welding.
<b>DESIGN DOMAIN</b>						
33	Dr. N. Siva Shanmugam	Associate Professor, Dept. of Mech. Engg.	National Institute of Technology, Tiruchirapalli	Mobile: 9443649278 nsiva@nitt.edu	10 years	Finite Element Method, Bio- Mechanics, Machine Design
34	Dr. A. Elaya Perumal	Professor Head, Engineering Design Division	CEG, Anna University, Chennai-600025	044-22357738 profelaya@annauniv.edu		Composite Materials and Mechanics, Vibration Analysis and Control, Nano Science

						and Engineering, Surface Engineering, Design of Machine Elements
35	Dr. G.Shibu	Associate Professor, Engg. Design division	CEG, Anna University, Chennai-600025	044-22357647 shibu@annauniv.edu		Machine Design, Applied Mechanics, Mechanism
36	Dr.G.Sureshkannan	Associate Professor, Dept. of Mech. Engg.	CIT, Coimbatore	sureshkannan@cit.edu.in 91-9600736007		Finite element analysis, Optimization for engineering design, Theory of machines
37	Dr.J.Selwin Rajadurai	Professor	Government College of Engineering, Tirunelveli.	9442093691 selwinrajadurai@gmail.com	24 years	Design, Composites
38	Dr. T.Prem Singh Inbaraj	Assistant Professor (RD)	Government College of Engineering, Tirunelveli	premsingh@gcetly.ac.in 9345737511	16 years	CAD/CAM
39	Dr.S.Rajakarunakaran	Professor & HOD, Dept. of Mech. Engg.	Ramco Institute of Technology, Rajapalayam	rajarunakaran@ritrjpm.ac .in 9865312352	30 years	Fault diagnosis, Condition Monitoring, Multi Criteria Optimization
40	Dr.P.Navaneethakrishnan	Professor & HOD, Dept. of Mech. Engg.	Kongu Engineering College, Erode	Email: <b>pnk@kongu.ac.in</b> , Mobile: <b>9842950323</b> Office: <b>04294-226710</b>	28 years	Engineering Design
41	Dr.V.Hariharan	Professor, Dept. of Mech. Engg.	Kongu Engineering College, Erode	Email: hariharan@kongu.ac Mobile: 9443504469 Office: 04294-226712	29 years	Vibration Analysis, Condition Monitoring



42	Dr.A.Vasanthanathan	Associate Professor, Dept. of Mech. Engg.	Mepco Schlenk Engineering College, Sivakasi	vasanthan@mepcoeng.ac.in 9894781354	20 Years	Finite Element Analysis, Fibre Reinforced Plastics
43	Dr. R. Murali Kannan	Professor, Dept. of Mech. Engg.	AAA College of Engineering, Virudhunagar	muralikannan6@gmail.com 9486140536	17 years	CAD/CAM
44	Dr.P.Sathyabalan	Professor, Dept. of Mech. Engg.	Kumaraguru college of Technology	sathyabalan.p.mec@kct.ac.in	15 Years	Engineering Design
45	Dr.Prabhu Raja. V	Professor, Dept. of Mech. Engg.	PSG College of Technology, Coimbatore	vpr.mech@psgtech.ac.in	25 years	Machin Design, Finite Element Analysis, High Speed Machining
46	Dr. M.Elango	Assistant Professor, Dept. of Mech. Engg.	Thiagarajar college of Engineering, Madurai	memech@tce.edu	28 years	Computer Aided Design

*h.u-m*

CHAIRMAN

BOARD OF STUDIES