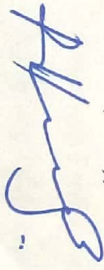
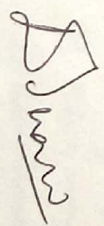

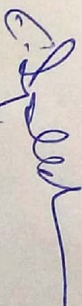


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Department of Electronics and Communication Engineering

MINUTES OF THE MEETING

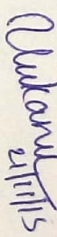
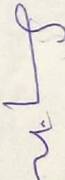

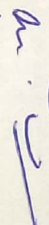
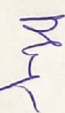



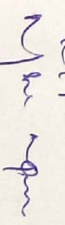






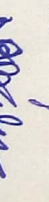

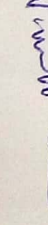
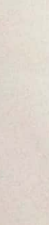
Name of the meeting	: Board of Studies Meeting, ECE Department
Date of the meeting	: 21.11.2015
Time	: 11.00 A.M
Duration	: 2 Hours
Venue	: Agilent Lab, Thiagarajar College of Engineering, Madurai

Attended by:

Dr.S.Raju	Chairman, Board of Studies (ECE), Professor & Head of ECE Department, TCE, Madurai
Dr.P.Hanumantha Rao	Sameer, Chennai 
Dr.D.Striram Kumar,	Professor, Department of ECE, NIT Trichy 
Mr.S.Maniyannan	Siemens Ltd., Bangalore 
Mr.E. Iniya Nehru	Senior Technical Director, National Information Centre, Bangalore 

THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI 625 015
Department of Electronics and Communication Engineering

Faculty Members:

Dr. R. Sukanesh	Associate Professor		
Dr. M. Suganthi	Associate Professor		
Dr. S.J. Thiruvengadam	Professor		
Dr. S. Rajaram	Associate Professor		
Dr. S. Md. Mansoor Roomi	Assistant Professor		
Dr. B. Manimegalai	Assistant Professor		
Dr. R.A. Alagu Raja	Assistant Professor		
Dr. T. Aruna	Assistant Professor		
Dr. S. Kanthamani	Associate Professor		
Dr. K. Haritharan	Associate Professor		
Dr. M.S.K. Manikandan	Associate Professor		
Dr. L.R. Karl Marx	Associate Professor		
Dr. A. Thenmozhi	Associate Professor		
Dr. B. Yogameena	Associate Professor		
Dr. B. Sathyabama	Associate Professor		
Dr. M.N. Suresh	Assistant Professor		
Dr. K. Rajeswari	Assistant Professor		
Dr. N.B. Balamurugan	Associate Professor		
Mr. V. Vinoth Thyagarajan	Assistant Professor		

THIAGRAJAR COLLEGE OF ENGINEERING, MADURAI 625 015
Department of Electronics and Communication Engineering

Dr.S.Ponnalar

Assistant Professor

Mrs. E. Murugavalli

Assistant Professor

Dr.V.N.Senthilkumaran

Assistant Professor

Mr.K. Vasudevan

Assistant Professor

Dr.D. Gracia Nirmala Rani

Assistant Professor

Dr. P.G.S. Velmurugan

Assistant Professor

Dr.V.R. Venkatasubramani

Assistant Professor

Dr. K. Kalyani

Assistant Professor

Mr.M.Senthilnathan

Assistant Professor

Mr.S. Parthasarathi

Assistant Professor

Dr.M.Mutharasan

Assistant Professor

Dr. Ponnalar

Dr. V. N. Senthilkumaran

Dr. D. Gracia Nirmala Rani

Dr. P. G. S. Velmurugan

Dr. V. R. Venkatasubramani

Dr. K. Kalyani

Mr. M. Senthilnathan

Mr. S. Parthasarathi

Dr. M. Mutharasan

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Sl.No	Points Discussed	Action Plan	Responsibility	Target date
1.	Sche duling of Courses	<p>Dr.S.Raju welcomed the gathering and Dr.S.J.Thiruvengadam presented the Scheduling of Courses. The following suggestions were made:</p> <ul style="list-style-type: none"> • The credit for the course “professional communication” in VI semester has been reduced to 2 credits from 3 credits. To compensate, a Laboratory course titled “Systems Lab” can be introduced in VII semester for one credit. This course aims at designing and testing of sub-system modules. • A course on “Professional Ethics” may be included in the curriculum. • In V semester, the theory course “Data Structures” and Lab course “Data Structures and Networking Lab” can be combined as theory cum practical course titled “Data Structure and Algorithm”. Concept of big data and cloud computing can be included in this course. • In V semester, the theory cum practical course “Data Communication Network” can be taught as separate theory course titled “Data Communication Network” and lab course titled “Data Communication Networking Lab”. 	Dr.S.J.Thiruvengadam	27.11.2015

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2.	The approval of the syllabi for the course 14EC410: Numerical Methods and Optimization	<p>Dr.M.Mutharasan presented the course and the syllabus has been approved. The following changes are suggested:</p> <ul style="list-style-type: none"> • The term "introduction" can be removed from the syllabus. • Can include two or three case studies and applications pertaining to communication systems such as finite differences, interpolation, DSP solutions, IP solutions. • Can include Cubic Spline in first module. • Can include Duality in optimization module (before simplex method), Can also include global optimum and Local optimum. • Can introduce concepts of convergence. • May remove: solution of parabolic equations – Solution of hyperbolic equations by explicit scheme – Solution of elliptic equations – Leibmann's process. 	Dr.M.Mutharasan <i>M.S. Mani</i>	27.11.2015
3.	The approval of the syllabi for the course 14EC420: Microcontrollers	<p>Dr.L.R.Karl Marx presented the course and the syllabus has been approved. The following changes are suggested.</p> <ul style="list-style-type: none"> • May remove - Programming structure, Data types etc. • Can introduce Freescale and ARM microcontrollers in the last module. Can also introduce RTOS. 	Dr.K.Harisharan Dr.L.R.Karl Marx <i>M.S. Mani</i>	27.11.2015

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4.	The approval of the syllabi for the Course 14EC330: Transmission Lines and Waveguides	<p>Dr.A.Thenmozhi presented the course and the syllabus has been approved. The following changes are suggested</p> <ul style="list-style-type: none"> • Introduce Circular wave guide and Double stubbing. • Merge III and IV module as "Smith chart and Impedance chart" • The module "Waveguides and Planar Transmission Lines" can be split as separate modules titled "Waveguides" and "Planar Transmission Lines". • The last module can be renamed as "Microwave resonators and sources" and include sources of excitation. • Use animation tools to demonstrate wave propagation. 	Dr.A.Thenmozhi	27.11.2015
5.	The approval of the syllabi for the Course 14EC340: Signal Processing	<p>Dr.S.J.Thiruvengadam presented the course and the syllabus has been approved. The following changes are suggested</p> <ul style="list-style-type: none"> • DFT and its application in Radar Signal Processing may be included in the first module. • May remove "elliptic filters". 	Dr.S.J.Thiruvengadam	27.11.2015

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6.	The approval of the syllabi for the Course 14EC450 Engineering Design	<p>Dr.S.J. Thiruvengadam presented the course and the syllabus has been approved. The following changes are suggested</p> <ul style="list-style-type: none"> Students should explore entire product design phase pertaining to functionality, ergonomics, thermodynamics, reliability and environmental aspects First 12 hours may deal on material science, thermodynamics and environmental science. Sources can be sought from NITs, G.D Naidu institute. Students should prepare project proposals. 	Dr.S.J. Thiruvengadam <i>Dr. S. J. Thiruvengadam</i>	27.11.2015
7.	The approval of the syllabi for the Course 14EC470 Active Circuit Analysis and Synthesis	<p>Dr.N.B.Balamurugan presented the course and the syllabus has been approved. The following changes are suggested:</p> <ul style="list-style-type: none"> Can redefine the syllabus contents to include more active circuits contents. 	Dr.N.B.Balamurugan, Mr.V.Vinoth Thyagarajan <i>Dr. P. Balamurugan</i>	27.11.2015
8.	The approval of the syllabi for the Course 14EC380 Embedded System Design Lab	<p>Dr.L.R.Karl Marx presented the course and the syllabus has been approved. The following changes are suggested:</p> <ul style="list-style-type: none"> Can change the course title as "Microcontroller Lab"1. 	Dr.K.Harisharan Dr.L.R.Karl Marx <i>Dr. S. Marx</i>	-
9.	The approval of the syllabi for the Course 14EC390 Signal Processing Laboratory	Dr.S.J. Thiruvengadam presented the course and the syllabus has been approved without change.	Dr.S.J. Thiruvengadam	-

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10.	The approval of the syllabi for the Course 14EC4C0 Capstone Course I	Dr.S.J. Thiruvengadam presented the course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> • Four technology Domains – Electronics, Digital, Communication, and Programming – can be fixed. • Start with comprehensive viva/ objective type examination in each domain. The students have to give convincing explanation for their answers. • Objective type questions for each domain can carry 60 marks and corresponding viva can carry 40 marks. • Remove literature survey. 	Dr.S.J. Thiruvengadam	27.11.2015
11.	The approval of the syllabi for the Course 14WTPS0 Computational Electromagnetics	Dr.B. Manimegalai presented the course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> • Include low frequency methods, High frequency methods and hybrid methods in second module. • Include geometric theory and diffraction (GTD), GO and PO in third module. Also introduce HO band functions, parallelization and GA methods. • Change the fourth module title as “Modeling of RF Devices and Antenna” and include transmission line matrix (TLM), optimization using GA and realization using any of the appropriate packages. 	Dr.B. Manimegalai	27.11.2015

Prepared by *VRN*

Date: 21.11.2015

Approved by *S.J. Thiruvengadam*

Date: 21.11.2015

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Department of Electronics and Communication Engineering

MINUTES OF THE MEETING

Name of the meeting	: Board of Studies Meeting, ECE Department
Date of the meeting	: 23.04.2016
Time	: 10.00 A.M
Duration	: 3 Hours
Venue	: Agilent Lab, Thiagarajar College of Engineering, Madurai
Attended by:	
Dr.S.Raju	Chairman, Board of Studies (ECE), Professor & Head of ECE Department, TCE, Madurai
Dr.Ashok Rao	Former Professor, IISc Bangalore
Dr.P.Hanumantha Rao	Sameer, Chennai
Dr.S.Shannugavel	Principal, NEC, Kovilpatti
Dr.D.Sriram Kumar,	Professor, Department of ECE, NIT Trichy
Mr.S.Manivannan	Siemens Ltd., Bangalore
Dr.K.Malathy	Professor, Department of ECE, Anna University, Chennai
Dr.T.Ganesan,	Texas Instruments, Bangalore
Dr.A.R.Karthikeyan	Astra Microwave, Bangalore

[Signature]

THIAGRAJAR COLLEGE OF ENGINEERING, MADURAI 625 015
Department of Electronics and Communication Engineering

Faculty Members:

1. Dr. R. Sukanesh
2. Dr. M. Suganthi
3. Dr. S.J. Thiruvengadam
4. Dr. S. Rajaram
5. Dr. S. Md. Mansoor Roomi
6. Dr. B. Manimegalai
7. Dr.R.A.Alagu Raja
8. Dr. T. Aruna
9. Dr.S.Kanthamani
10. Dr.K.Hariparan
11. Dr. M.S.K. Manikandan
12. Dr.L.R.Karl Marx
13. Dr. A. Banumathi
14. Dr. A. Thenmozhi
15. Dr. B. Yogameena

Associate Professor

Associate Professor

Professor

Associate Professor

Assistant Professor

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S. Rajaram

S. Md. Mansoor Roomi

B. Manimegalai

R.A. Alagu Raja

T. Aruna

S. Kanthamani

K. Hariparan

M. S.K. Manikandan

L.R. Karl Marx

A. Banumathi

A. Thenmozhi

B. Yogameena

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16. Dr. B. Sathyabama	Associate Professor	<i>B. Sathyabama</i>
17. Dr. M.N. Suresh	Assistant Professor	<i>M. N. Suresh</i>
18. Dr. K. Rajeswari	Assistant Professor	<i>K. Rajeswari</i>
19. Dr. N.B. Balamurugan	Associate Professor	<i>N. B. Balamurugan</i>
20. Mr. V. Vinoth Thyagarajan	Assistant Professor	<i>V. Vinoth</i>
21. Dr. S. Ponnalar	Assistant Professor	<i>S. Ponnalar</i>
22. Dr. G. Ananthi	Assistant Professor	<i>G. Ananthi</i>
23. Mrs. E. Murugavalli	Assistant Professor	<i>E. Murugavalli</i>
24. Dr. V.N. Senthilkumaran	Assistant Professor	<i>V. N. Senthilkumaran</i>
25. Mr. K. Vasudevan	Assistant Professor	<i>K. Vasudevan</i>
26. Dr. D. Gracia Nirmla Rani	Assistant Professor	<i>D. Gracia Nirmla Rani</i>
27. Dr. P.G.S. Velmurugan	Assistant Professor	<i>P. G. S. Velmurugan</i>
28. Dr. V.R. Venkatasubramani	Assistant Professor	<i>V. R. Venkatasubramani</i>
29. Dr. K. Kalyani	Assistant Professor	<i>K. Kalyani</i>
30. Mr. M. Senthilnathan	Assistant Professor	<i>M. Senthilnathan</i>
31. Mr. S. Parthasarathi	Assistant Professor	<i>S. Parthasarathi</i>

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Sl.No	Points Discussed	Action Plan	Responsibility	Target date
1.	Scheduling of Courses	<p>Dr.S.Raju welcomed the members of the Board of studies.</p> <p>Dr.S.J.Thiruvengadam presented the Scheduling of Courses with the following suggestions:</p> <ul style="list-style-type: none"> • 'Image Processing' course shall replace 'Data Structure' course in V semester B.E(ECE). It shall be offered as theory cum practical course. The course on 'Data Structure' shall be moved to programme elective category. • The Course on 'Wireless Communication Systems' shall be moved from VII semester to VI semester • A course on 'Optical Communication Networks' shall be introduced in VII semester as programme core – theory course. <p>The proposed changes have been approved in the Board of studies meeting.</p>	Dr.S.J.Thiruvengadam	29.04.16
2.	The approval of the syllabi for the course 14EC510: Data Communication Networks	<p>Dr.M.S.K. Manikandan presented the course and the syllabus has been approved. The following changes are suggested</p> <ul style="list-style-type: none"> • The topics 'Bluetooth, Zigbee, adhoc and sensor networks may be introduced in module 1. • A topic on TCP/IP model may also be introduced. 	Dr.M.S.K.Manikandan	29.04.16

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3.	The approval of the syllabi for the course 14EC520: Digital CMOS Systems	<ul style="list-style-type: none"> Dr.D.Gracia Nirmala Rani presented the course and the syllabus has been approved. The following changes are suggested. VLSI System Integration may be introduced in Module-1 Assignments are to be given using EDA tools to analyze the performance of CMOS Logic Circuits. Include MIT and NPTEL courseware in Reference. 	Dr.D.Gracia Nirmala Rani	29.04.16
4.	The approval of the syllabi for the Course 14EC530 Antenna and Wave Propagation	<ul style="list-style-type: none"> Dr.B.Manimegalai presented the course and the syllabus has been approved. The following changes are suggested The topic "near field antenna" shall be replaced by "near field half antenna" The module-1 and 2 can be combined. Include antennas such as aperture, horn, microstrip, fractal, yagi-uda, log-periodic, folded dipole, helical. Use antenna tools in MATLAB for demo. Include problems in application of antenna arrays Reorder the chapters appropriately. Remove the topic "Extension to planar array". 	Dr.B.Manimegalai	29.04.16
5.	The approval of the syllabi for the Course 14EC540: Analog and Digital Communication Systems	<ul style="list-style-type: none"> Dr.M.N.Suresh presented the course and the syllabus has been approved. The following changes are suggested Module-1 shall be on Analog and remaining shall be on Digital communication. Topics on DPCM and DM may be included. Include topics on Error Control Coding. Introduce a module on "Direct Sequence Spread Spectrum" GFSK/GMSK may be introduced. 	Dr.M.N.Suresh	29.04.16

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6.	The approval of the syllabi for the Course 14ECC550 Image Processing	Dr.B.Yogameena presented the course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> This course shall be placed under theory cum practical category. Include 2D and 3D image in Module-1. Can remove object classification and recognition module. Can include DFT, DCT and JPEG standards in Image Enhancement module. Can include image analysis as last module. Can perform MPEG-2 processing in Lab. Also JPEG - older version (before year 2000) can be handled in lab thoroughly. 	Dr.B.Yogameena	29.04.16
7.	The approval of the syllabi for the Course 14ECP00 Data Structures	Dr.S.Ponnalar presented the course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> This course is to be categorized as programme elective – theory cum practical. Can perform experiments using python/C/C++ Can include matrix analysis, solving linear, LUT / open-source. 	Dr.S.Ponnalar	29.04.16
8.	The approval of the syllabi for the Course 14ECPA0 Digital Signal Processor	Dr.K.Rajeswari presented the Course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> The title of the course is to be changed as “ DSP Architecture and Programming” 	Dr.K.Rajeswari	29.04.16
9.	The approval of the syllabi for the Course 14ECPB0 Embedded System Design	Dr.K.Hariharan presented the Course and the syllabus has been approved without change.	Dr.K.Hariharan	-

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10.	The approval of the syllabi for the Course 14ECPD0 Digital System Design	Dr.K.Kalyani presented the Course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> This course contents shall be combined with that of the course 'Programmable ASIC Design'. Hence the title of the course can be change to 'Digital System Design using FPGAs' 	Dr.K.Kalyani	29.04.16
11.	The approval of the syllabi for the Course 14ECPD0 Control Systems	Dr.P.G.S.Velmurugan presented the Course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> A book titled 'Control System Engineering' by Norman Nise may be introduced as text book. Emphasize may also be given for digital control system. 	Dr.P.G.S.Velmurugan Mr. Man	29.04.16
12.	The approval of the syllabi for the Course 14ECPE0 Programmable ASIC Design	Dr.V.R.Venkatasubramani presented the Course and the syllabus has been approved. The following changes are suggested <ul style="list-style-type: none"> This course contents shall be combined with that of the course 'Digital System Design using FPGAs'. Hence this course may be dropped. 	-	-
13.	The approval of the syllabi for the Course 14ECPF0 Real Time System Design	Dr.K.Haritharan presented the Course and the syllabus has been approved without change.	Dr.K.Haritharan	-
14.	The approval of the syllabi for the Course 14EC580 Data Communication Networking Laboratory	Dr.M.S.K.Manikandan presented the Course and the syllabus has been approved without change. <ul style="list-style-type: none"> A complete experiment flow on TCP/IP (Ethernet) may be introduced. 	-	-
15.	The approval of the syllabi for the Course 14EC590 Analog and Digital Communication Laboratory	Dr.M.N.Suresh presented the course and the syllabus has been approved without change.	-	-

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16.	Choice Based Credit System (CBCS)	<p>Dr.S.J.Thiruvengadam presented the Categorization of Courses, Credit Distribution for each category and the Regulation of CBCS System. This system is being implemented for the students admitted from the academic year 2015-16. The following suggestions have been made.</p> <ul style="list-style-type: none"> • Awarding one credit for two weeks of industrial training may be changed to at least three weeks. • Panel of Mentors/experts may be prepared to offer courses in the Skill/proficiency based elective courses and industry supported courses. • An exclusive session on CBCS implementation shall be conducted in the forthcoming Board of Studies Meeting. 	-	-
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Prepared by *VR Narendar Subramanian* Date: 23.04.2016

Approved by *VR Narendar Subramanian* Date: 23.04.2016

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