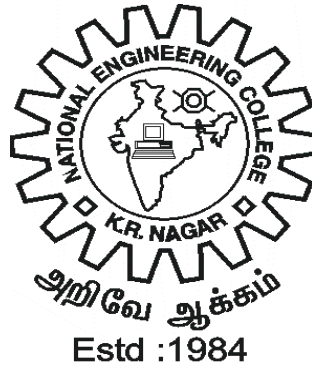


# NATIONAL ENGINEERING COLLEGE

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

**K.R.NAGAR, KOVILPATTI – 628 503**



**12<sup>th</sup> BOARD OF STUDIES MEETING – MINUTES**

*PERIOD*  
*NOVEMBER 2019*

*Venue: Conference Hall in the Administrative Block*

Department of Mechanical Engineering

MINUTES of 12<sup>th</sup> Meeting of the Board of studies held on  
09<sup>th</sup> November, 2019 at 10.00 a.m.

Venue: Conference Hall, National Engineering College, K.R.Nagar,  
Kovilpatti – 628503

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

**National Engineering College, K.R.Nagar, Kovilpatti – 628 503**

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12<sup>th</sup> Board of studies Meeting in the Department of  
**Mechanical Engineering**

Venue: Conference Hall,  
National Engineering College,  
K.R.Nagar, Kovilpatti – 628 503

Date & Time: 09.11.2019 & 10.00 a.m.

Agenda

BoS / MECH 12.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the department of Mechanical Engineering
BoS / MECH 12.2	:	Confirmation of the Minutes of the 11 <sup>th</sup> meeting of Board of studies in the department of Mechanical Engineering held on May 25, 2019 and Action taken report of 11 <sup>th</sup> meeting of Board of studies
BoS / MECH 12.3	:	Business brought forward by the Chairman, Board of studies
	12.3.1.	Syllabus of Professional Core courses in III and IV year B.E. Mechanical Engineering Programme under Regulation 2019
	12.3.2.	List of Open Elective and Professional Elective Courses in B.E. Mechanical Engineering Programme under Regulation 2019
	12.3.3.	List of Online Courses for Credit Transfer
BoS / MECH 12.4	:	Suggestions given by the BOS Members
BoS / MECH 12.5	:	Any other items

Department of Mechanical Engineering

**National Engineering College, K.R.Nagar, Kovilpatti – 628 503**

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F. No. 1-1/NEC/ MECH

9<sup>th</sup> November, 2019

Dear Sir/Madam,

**Sub: *Minutes of the 12<sup>th</sup> Meeting of the Board of studies in the Mechanical Engineering - Reg.***

Kindly find attached herewith the Minutes of the 12<sup>th</sup> Meeting of Board of studies of the Mechanical Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628 503 held on 9<sup>th</sup> November 2019 at 10.00 a.m. in Conference hall, 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 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

*u. u - 86 9/11/19*  
(Dr.K.Manisekar)

**National Engineering College, K.R.Nagar, Kovilpatti – 628 503**

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

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Department of Mechanical Engineering

**MINUTES OF THE MEETING**

The 12<sup>th</sup> Meeting of the Board of studies of the Mechanical Engineering was held on 09<sup>th</sup> November 2019 at 10.00 a.m. in the Conference Hall, National Engineering College, K.R.Nagar, Kovilpatti – 628 503

1. The following members were present:

1.	Dr.K.Manisekar, Professor Prof & Head	Chairman
2.	Dr. D.Ravindran, Professor	Internal Members
3.	Dr.S.Iyah Raja, Asso. Professor	
4.	Dr.D.Venkat Kumar, Asso. Professor	
5.	Dr. M.Kathiresan, Asso. Professor	
6.	Mr.P.Ramanan, Assistant Professor (S.G)	
7.	Mr.D. Vignesh Kumar, Asst. Prof. (SG)	
8.	Dr.I. Sankar, Assistant Professor (S.G)	
9.	Dr.F.Michael Thomas Rex, Asst. Prof. (SG)	
10.	Mr.K.Thoufiq Mohammed, Assistant Professor	
11.	Mr.C.Suresh Kumar, Assistant Professor	
12.	Mr.S.S.Ananthan, , Adjunct Faculty	
13.	Dr.D.Mohanlal, Professor, Department of Mechanical Engineering, CEG campus, Anna university, Chennai-600 025	University Nominee
14.	Dr. R. Velraj Professor & Director, Institute for Energy Studies, CEG Anna University, Chennai	Academic Experts
15.	Dr.-Ing. M. Duraiselvam Professor, Department of Production Engineering, National Institute of Technology, Trichy	
16.	Mr. R. Kanda Subburaj Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	Industrial Expert related to Placement

17.	Dr. K. Murugan Scientist –E, Centre for Engineered Coatings (CEC), ARCI, Hyderabad – 500 005, Telangana	Alumnus Nominated by the Principal
18.	Dr. K. KalidasaMurugavel Principal, National Engineering College, Kovilpatti	Special Invitees
19.	Dr.A.Arockiarajan Professor, Department of Applied Mechanics, Indian Institute of Technology, Chennai	
20.	Mr.P.Muniyandi Principal Scientific Officer Bharat Earth Movers Limited New Thippasandra, Bengaluru – 56007	
21.	Mr.P.S.Sriram Vice President – Operations (Plant – Head) Daimler india commercial vehicles, Chennai.	
22.	Mr. Vinoth Kumar. M Plant Head, Interplex Electronics India Pvt. Ltd., Chennai	
23.	Mr.M.A.Nithin Mohan, IV Year	Student Members
24.	Mr. P. Kasi Raj, IV Year	

2. The following members could not attend the meeting due to their prior commitments and unavoidable reasons and they were granted leave of absence.

1.	Dr. S.Venugopal Former Director, Materials Group, IGCAR Visiting Professor, Indian Institute of Technology, Chennai	Industrial Experts
2.	Mr. Raju Sreeram N. D Managing Director, Vijaya Lakshmi Mills Pvt. Ltd, Rajapalayam	

3.	Mr. S. Suresh Senior Vice President and Business Head (EM), Wheels India Limited, Padi, Chennai	
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BoS / MECH 12.1 : 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 12<sup>th</sup> Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS / MECH 12.2 : TO CONFIRM THE MINUTES OF ELEVENTH BOS MEETING HELD ON 25<sup>th</sup> May, 2019

The minutes of the Eleventh Board of Studies meeting held on 25<sup>th</sup> May, 2019 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 11<sup>th</sup> Academic council.

➤ **Action Taken Report**

(Enclosed in *Annexure I*)

BoS / MECH 12.3.1 : TO CONFIRM AND APPROVE the syllabus of Professional Core Courses in III and IV year B.E. Mechanical Engineering Programme under Regulation 2019

➤ **RESOLVED TO APPROVE** the syllabus of Professional Core Courses in III and IV year B.E. Mechanical Engineering Programme under Regulation 2019

BoS / MECH 12.3.2 : TO CONFIRM AND APPROVE the List of Open Elective and Professional Elective Courses in B.E. Mechanical Engineering Programme under Regulation 2019

- **RESOLVED TO APPROVE** the List of Open Elective and Professional Elective Courses in B.E. Mechanical Engineering Programme under Regulation 2019

BoS / MECH 12.3.3 : **TO CONFIRM AND APPROVE** the list of Online Courses for Credit Transfer

- **RESOLVED TO APPROVE** the list of Online Courses for Credit Transfer

BoS / MECH 12.4 : **Suggestions Given by the Members**

12.4.1 : The open elective course “Biology for Mechanical Engineering” may be renamed as “Engineering Biology”.

12.4.2 : The open elective course “Digital Electronics for Engineers” may be renamed as “Fundamentals of Digital Electronics”.

12.4.3 : “Battery technologies” can be offered as a one credit course.

12.4.4 : The course contents of “Finite Element Analysis” may be rearranged.

12.4.5 The courses “Data analytics”, “Utilities Engineering” and “Laws related to industry” can be added to the curriculum as electives.

12.4.6 Recent case studies may be included in the syllabus of “Professional Ethics” course.

12.4.7 The elective course “Six Sigma” can be renamed as “Lean Manufacturing”.

12.4.8 Risk analysis topic can be added to the syllabus of core course “Project Management”.



The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and Syllabi.





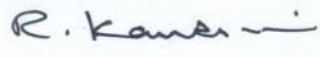



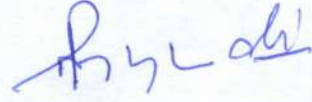

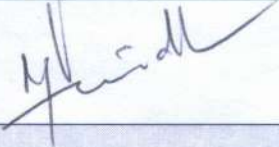
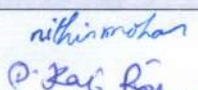
Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

- a) Syllabus for core courses of III and IV year B.E. Mechanical Engineering Programme under Regulation 2019
- b) List of Open and Core Elective Courses in B.E. Mechanical Engineering Programme under Regulation 2019
- c) List of Online Courses for Credit Transfer

Dr.D.Ravindran thanked all the members for their kind cooperation and the meeting came to an end.

**Members Present**

<b><i>Chairman</i></b>	
Dr.K.Manisekar, Professor & Head	u.u - 82
<b><i>Internal Members</i></b>	
Dr. D.Ravindran, Professor	[Signature]
Dr.S.Iyah Raja, Associate Professor	[Signature]
Dr.D.Venkat Kumar, Associate Professor	[Signature]
Dr. M.Kathiresan, Associate Professor	[Signature]
Mr.P.Ramanan, Assistant Professor (S.G)	[Signature]
Mr.D. Vignesh Kumar, Assistant Professor (SG)	[Signature]
Dr.I. Sankar, Assistant Professor (S.G)	[Signature]
Dr. F. Michael Thomas Rex, Assistant Professor (S.G)	[Signature]
Dr. T.Sakthi, Assistant Professor	[Signature]
Mr. S.S.Ananthan, Adjunct Professor	[Signature]
Mr.K.Thoufiq Mohammed, Assistant Professor	[Signature]

Mr.C.Suresh Kumar, Assistant Professor	
<b>University Nominee</b>	
Dr.D.Mohanlal, Professor, Department of Mechanical Engineering, CEG campus, Anna university, Chennai-600 025	
<b>Academic Experts</b>	
Dr.-Ing. M. Duraiselvam, Professor, Department of Production Engineering, NIT, Trichy	
Dr. R. Velraj, Professor & Director, Institute for Energy Studies, CEG, Anna University, Chennai-600025	
<b>Industrial Experts</b>	
Mr. R. Kanda Subburaj, Chief Engineer, Project Controls, AMEC Foster Wheeler India Pvt. Ltd, Chennai	
<b>Alumni Nominated by the Principal</b>	
Dr. K. Murugan, Scientist -E, Centre for Engineered Coatings (CEC), ARCI, Hyderabad - 500 005, Telangana	 9/11/2019
<b>Special Invitees</b>	
Dr. K. Kalidasa Murugavel Principal, National Engineering College, Kovilpatti	
Dr. A.Arockiarajan Professor, Department of Applied Mechanics, Indian Institute of Technology, Chennai	
Mr.P.Muniyandi, Principal Scientific Officer, Bharat Earth Movers Limited, New Thippasandra, Bengaluru - 560075	
Mr.P.S.Sriram, Vice President - Operations (Plant - Head) Daimler India commercial vehicles, Chennai.	 9/11/2019/2019
Mr. Vinoth Kumar. M, Plant Head, Interplex Electronics India Pvt. Ltd., Chennai	
<b>Student Members Nominated by the HOD</b>	
Mr.Nithin Mohan, IV Year Mr.N. Kasiraj, IV Year	 nithinmohan P. Kasiraj

U.C - 82  
9/11/19  
CHAIRMAN  
BOARD OF STUDIES

## ANNEXURE I

### **Actions taken for Minutes of 11<sup>th</sup> BoS Meeting**

As per BOS Committee suggestion,

1. The syllabus content was elaborated for the course Manufacturing Technology in the UG Mechanical Engineering curriculum.
2. Four pillars of constitution and Procedure in VISA application were included in the course "Constitution of India" UG Engineering curriculum.
3. The elective course "Energy Efficient Buildings" was included as a core course in the PG Energy Engineering Curriculum.
4. General elective courses that are offered to the research scholars were categorized as open elective courses in the PG Energy Engineering Curriculum.
5. Advanced fluid mechanics concepts were included in the core course "Advanced Thermal Engineering" in the PG Energy Engineering Curriculum.
6. Applications of Solar PV were included in the core course "Solar Energy and Utilization" in the PG Energy Engineering Curriculum.

*h.c. - 82*  
*9/11/19*

**CHAIRMAN  
BOARD OF STUDIES**

**ANNEXURE II**  
**List of Online Courses for Credit Transfer**

S. No	Name of the NPTEL Online Course
1	Enhancing soft skills and Personality
2	Introduction to Composites
3	Introduction to Internet of Things
4	Rapid Manufacturing
5	Six Sigma
6	Principles of Metal Forming Technology
7	Technical English for engineers
8	Design for Quality, Manufacturing and Assembly
9	Management Accounting
10	Industrial Safety Engineering
11	Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations
12	Thermal Processing of Foods
13	Fundamentals of Artificial Intelligence
14	Energy Conservation and Waste Heat Recovery
15	Welding Metallurgy
16	Machine Learning for Engineering and Science Applications
17	Manufacturing of Composites

*h u - PL*  
*9/11/19*  
**CHAIRMAN**  
**BOARD OF STUDIES**

Department of Electronics and Communication Engineering

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

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

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12<sup>th</sup> Board of studies Meeting in the Department of  
**Electronics and Communication Engineering**

Venue: Conference Hall, National Engineering College  
K.R.Nagar, Kovilpatti – 628503

Date & Time: 02.11.2019& 10.30 a.m.

**AGENDA**

ECE/BoS12.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the department of Electronics and Communication Engineering
ECE/BoS 12.2	:	Confirmation of the Minutes and action taken report of the 11 <sup>th</sup> meeting of Board of studies in the Department of Electronics and Communication Engineering held on May11,2019.
ECE/BoS12.3	:	Business brought forward by the Chairman, Board of studies 12.3.1. Third year syllabus for UG degree programmes under R-2019 12.3.2. Modification needed in the second year UG/PG syllabus under R-2019 12.3.3. Additional elective courses in R2015
ECE /BoS 12.4	:	Any other items
ECE /BoS12.5	:	Suggestions given by the BoS Members

Department of Electronics and Communication Engineering  
National Engineering College, K.R.Nagar, Kovilpatti – 628 503  
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F. No. 1-2/NEC/Branch/ECE

4<sup>th</sup> November, 2019

Dear Sir/Madam,

**Sub: *Minutes of the 12<sup>th</sup> Meeting of the Board of studies in Electronics and Communication Engineering - Reg.***

Kindly find attached herewith the minutes of the 12<sup>th</sup> Meeting of Board of studies of the Electronics and Communication Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628503 held on 2<sup>nd</sup> November, 2019 at 10.30AM in the conference hall of 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 to [hodeceug@nec.edu.in](mailto:hodeceug@nec.edu.in) or by post, at the earliest. If no comments are received, within ten days, the minutes shall be taken as confirmed.

Thanking You.

Yours Sincerely



(Dr.A.Shenbagavalli)

Department of Electronics and Communication Engineering

MINUTES 12<sup>th</sup> Meeting of the Board of studies held on  
2<sup>nd</sup> November, 2019 at 10.30 AM

Venue: Conference Hall,  
National Engineering College, K.R.Nagar, Kovilpatti- 628503

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## Department of Electronics and Communication Engineering

### MINUTES OF THE MEETING

The 12<sup>th</sup> Meeting of the Board of studies of the Electronics and Communication Engineering was held on 2<sup>nd</sup> November, 2019 at 10.30 AM in the Conference Hall of the National Engineering College, K.R.Nagar, Kovilpatti – 628503.

1. The following members were present:

1.	Dr.A.Shenbagavalli Professor & Head	Chairman
2.	Dr.V.Vijayarangan, Professor	Internal Members
3.	Mr.N.Arumugam, Asso.Prof.	
4.	Dr.V.R.S.Mani, Asso. Prof.(SG)	
5.	Dr.T.S.Arun Samuel, Asso. Prof.	
6.	Mr.Deva Kumar, Asst. Prof. (SG)	
7.	Mr.T.Vijayanandh, Asst. Prof. (SG)	
8.	Dr.K.J.Prasanna Venkatesan, Asst. Prof. (SG)	
9.	Mr. A.Saravana Selvan, Asst. Prof. (SG)	
10.	Mr.S.Cammillus, Asst. Prof. (SG)	
11.	Mrs.R.Manjula Devi, Asst. Prof. (SG)	
12.	Mr.M.Satheesh Kumar, Asst. Prof. (SG)	
13.	Mr.M.Sathishkumar, Asst. Prof	
14.	Dr.J.Josephine Pon Gloria, Asst. Prof	
15.	Dr.M.Ganesh Madhan, Professor, Department of ECE Madras Institute of Technology campus, Anna University, Chennai	Academic Expert
16.	Dr. M. Meenakshi, Professor, Department of ECE, College of Engineering, Guindy Campus, Chennai	



17.	Dr.Klutto Milleth, Chief Technologist, Centre of Excellence in Wireless Technology, IIT-Madras Research Park, Chennai	Meritorious Alumnus / Industrial Expert
18.	Mr.S.Vijay Bharat, Associate Vice President, Mistral Solutions Pvt Ltd, Bangaluru	
19.	Mr. R Ravishankar, Associate Vice President, K7Computing, Chennai.	
20.	Mr. Sathyanaryana Sighakolli (Ex-ISRO Scientist), General Manager (RF & Analog) Mistral Solutions Pvt Ltd, Bangaluru.	Special Invitees / Industrial Experts
21.	Mr. Raja Subramanian, Senior Technical Architect (Software Design), Mistral Solutions Pvt Ltd, Bangaluru.	
22.	Mr.K.BalaSubramanian Project Leader (Hardware design), Mistral Solutions Pvt Ltd, Bangaluru.	
23.	Ms. S.Vigneshwari, 4 <sup>th</sup> year ECE	
24.	Mr.M.Vigneshwaran, 4 <sup>th</sup> year ECE	Student Members

2. The Industrial Expert members Mr.Neelakandan Eswaran, Technical Unit Manager - ATE Test, Altran, Bangalore and Mr. T.Bashyam, Principal, HCL Pvt Ltd, Chennai could not attend the meeting due to their prior commitments and unavoidable reasons and were granted leave of absence.

BoS/ECE 12.1 : WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

The Chairman, BoS of the Electronics and Communication Engineering welcomed and introduced the members of 12<sup>th</sup> Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS/ECE 12.2 : TO CONFIRM THE MINUTES OF ELEVENTH BOS MEETING HELD ON 11<sup>th</sup>MAY, 2019

The minutes of the **Eleventh Board of Studies meeting** held on 11<sup>th</sup>May, 2019 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 11<sup>th</sup> Academic council.

➤ Action Taken Report

(Enclosed in *Annexure I*)

BoS/ECE12.3.1 : **TO CONFIRM AND APPROVE THE THIRD YEAR SYLLABUS TO BE OFFERED UNDER R-2019**

**RESOLVED TO** approve the THIRD Year Syllabus to be offered under R-2019

(Enclosed in *Annexure II*)

BoS/ECE12.3.2 : **MODIFICATION NEEDED IN THE SECOND YEAR UG/PG SYLLABUS UNDER R-2019**

The following 3 special elective courses have been included in M.E., - EMBEDDED SYSTEM TECHNOLOGIES under R-2019.

- Radar signal processing
- Modern Wireless Communications
- Semiconductor Device Modeling

BoS/ECE12.3.3 **ADDITIONAL ELECTIVE COURSES IN R2015**

The following industry oriented 3-credit elective Courses under R-2015 proposed by Mistral Solutions Private Limited, Bengaluru have been included in the curriculum

- Embedded Architecture
- Embedded System Analysis and Feasibility Study
- Embedded product features and risk management
- Embedded design and development
- Product Validation and Certification

The following 1-credit elective Courses under R-2015 have been included in the curriculum.

- Core Java fundamentals

- Python programming and It's applications
- Vulnerability Assessment and Penetration Testing
- Malware Analysis and Reverse Engineering

BoS/ECE 12.4 : ANY OTHER ITEMS, IF ANY, WITH THE PERMISSION OF THE CHAIRMAN OF THE BOS

BoS/ECE 12.5 : SUGGESTIONS GIVEN BY THE BOS MEMBERS

- 12.5.1 : The BoS members reviewed the proposed syllabus of third year under R-2019 for Undergraduate Electronics and Communication Engineering Program based on the AICTE model curriculum.
- 12.5.2 : In Electromagnetic Waves course (5<sup>th</sup> Semester), the content of the unit II and unit III may be swapped.
- 12.5.3 : In computer architecture course (5<sup>th</sup> Semester), title of unit IV may be changed from "Parallelism" to "Parallel Processing". Abbreviated words may be expanded in the overall course content.
- 12.5.4 : In Linear integrated circuits course (5<sup>th</sup> Semester), the title of unit I may be changed from "IC Fabrication and Circuit Configuration for Linear ICs" to "Overview of LIC". Linear regulator topic may be included in unit V
- 12.5.5 : In digital signal processing course (5<sup>th</sup> Semester), relation between DTFT & DFT and Z transform may be included in unit I.
- 12.5.6 : The practical course titled Electromagnetic Waves Laboratory (5<sup>th</sup> Semester), the experiments related to antenna may be removed. Experiments related to impedance matching based on smith chart may be included.
- 12.5.7 : The practical course titled Digital Signal Processing Laboratory (5<sup>th</sup> Semester), 3<sup>rd</sup> experiment quality may be improved. Simple experiments may be clubbed in to single experiment. Repetitions may be removed in experiment content 4 and 5.
- 12.5.8 : Measurement experiments may to be included in practical course titled Linear IC and Measurement Laboratory (5<sup>th</sup> Semester).

- 12.5.9 : In control system course (6<sup>th</sup> Semester), unit II and unit III titles may be changed as time domain and frequency domain analysis respectively
- 12.5.10 : In computer networks course (6<sup>th</sup> Semester), the guided and unguided transmission media topics of unit I have to be more specific.  
In unit II, Wireless LANs topic may be changed as WLAN overview  
In unit V, the way of presenting the content may be changed as a statement from question format.
- 12.5.11 In VLSI course (6<sup>th</sup> Semester), "SPICE tutorial" topic of unit I should be as "Introduction to SPICE".  
In unit V, the title may be changed to " Introduction to HDL".
- 12.5.12 : In Antenna And Wave Propagation course (6<sup>th</sup> Semester), MIMO antennas and beam forming can be included in Unit II.  
Antenna design, alignments and measurements have to be included in unit IV.  
Topics in unit IV related to beam forming may be moved to unit II.
- 12.5.13 : The practical course titled Computer Networks Laboratory (6<sup>th</sup> Semester), experiment no 9 may be removed and some new experiment may be included.
- 12.5.14 : Mistral Solutions Private Limited, Bengaluru have proposed 5 courses. Embedded architecture course may be introduced as a first course.
- 12.5.15 : In M.E. Embedded System Technologies of PG R2019, the total content have to be re-modified in the special elective course "Modern Wireless Communications"

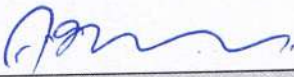
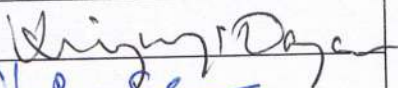
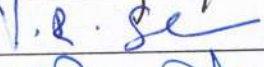

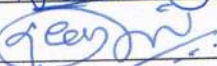
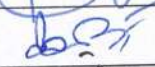


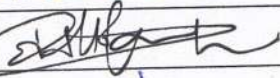
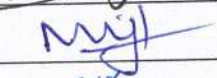
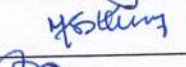




The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum.

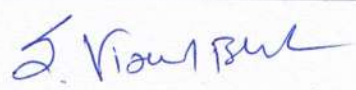


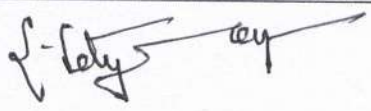
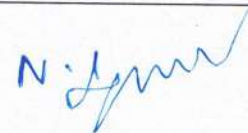

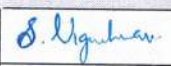
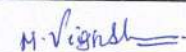
Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.


- ❖ Third, Final year syllabus including elective courses for UG degree programmes under R-2019
- ❖ Modification needed in the second year UG/PG syllabus under R-2019
- ❖ Additional elective courses under R-2015

Dr.T.S.Arun Samuel, Asso. Prof thanked all the members for their kind cooperation and the meeting came to an end.

Members Present

Dr.A.Shenbagavalli, Professor& Head Chairman	
<i>Internal Members</i>	
Dr.V.Vijayarangan, Professor	
Dr.V.R.S.Mani, Asso. Prof. (SG)	
Dr.T.S.Arun Samuel, Asso. Prof.	
Mr.T.Deva Kumar, Asst. Prof. (SG)	
Mr.T.Vijayanandh, Asst. Prof. (SG)	
Dr.K.J.Prasanna Venkatesan, Asst. Prof. (SG)	
Mr.A.Saravana Selvan, Asst. Prof. (SG)	
Mr.S.Cammillus, Asst. Prof. (SG)	
Mrs.R.Manjula Devi, Asst. Prof. (SG)	
Mr.M.Satheesh Kumar, Asst. Prof. (SG)	
Mr.M.Sathish Kumar, Asst. Prof	
Mrs.S.Viswalakshmi, Adjunct Faculty	
<i>Academic Experts</i>	
Dr.M.Ganesh Madhan, Professor, Department of ECE Madras Institute of Technology campus, Anna University, Chennai	
Dr. M. Meenakshi, Professor, Department of ECE, College of Engineering, Guindy Campus, Chennai	 2/11/19

<i>Industrial Experts</i>	
Mr.S.VijayBharat, Associate Vice President, Mistral Solutions Pvt Ltd, Bangalore.	
Mr. R Ravishankar, Associate Vice President, K7Computing, Chennai.	
<i>Meritorious Alumnus / Industrial Expert</i>	
Dr.KluttoMilleth, Chief Technologist, Centre of Excellence in Wireless Technology, IIT-MadrasResearch Park, Chennai	
<i>Special Invitees / Industrial Experts</i>	
Mr. SathyanaryanaSighakolli (Ex-ISRO Scientist), General Manager (RF &Analog) Mistral Solutions Pvt Ltd, Bangalore.	
Mr. Raja Subramanian, Senior Technical Architect (Software Design), Mistral Solutions Pvt Ltd, Bangalore.	
Mr.K.BalaSubramanian Project Leader (Hardware design), Mistral Solutions Pvt Ltd, Bangalore.	
<i>Student Members Nominated by the HOD</i>	
Ms. S.Vigneshwari, 4 <sup>th</sup> year ECE	
Mr.M.Vigneshwaran, 4 <sup>th</sup> year ECE	

  
CHAIRMAN  
BOARD OF STUDIES

## Annexure – I

### Minutes of 11<sup>th</sup> BoS Meeting - Action Taken Report

S. No	Suggestion given by expert members	Action taken
1.	Syllabus of Second year under R-2019 for Undergraduate Electronics and Communication Engineering Program based on the AICTE model curriculum.	Reviewed and Implemented
2.	Digital System Design course content of third semester may be reduced; unit II may be separated into two units and unit V may be moved to lab content.	Implemented
3.	In Signals and System course in third semester, MATLAB programs may be included for all the units.	Implemented
4.	Fourier Series and Transforms course in third semester, title may be changed to Fourier Series and Mathematical Transforms.	Implemented
5.	In Electronic Devices course of third semester, IGBT content may be included and text book edition to be mentioned.	Implemented
6.	First unit content of Network theory course in third semester may be changed and also first topic in Unit III may be changed as series resonance circuit.	Implemented
7.	First unit content of Network theory course in third semester may be changed and also first topic in Unit III may be changed as series resonance circuit.	Implemented
8.	Electronic devices practical course of third semester, experiment number 10 – ‘Series voltage Regulator’ and experiment number 11 – ‘Shunt voltage Regulator’ may be combined and offered as voltage regulators.	Implemented
9.	Unit 1 and Unit 2 content of Electronic Circuits course in fourth semester may be reduced. Contents like Franklin and Armstrong oscillators may be removed.	Implemented
10.	Probability and Random Processes course title in fourth semester may be changed to Probability, Random Processes and Queuing Theory and the title of unit 5 in the course may be changed as Queuing theory basics.	Implemented

<b>S. No</b>	<b>Suggestion given by expert members</b>	<b>Action taken</b>
11.	In Microprocessor and Microcontrollers course in fourth semester, the instruction set from unit 2 can be moved to unit 1.	Implemented
12.	In Analog and Digital Communication practical course of fourth semester, Experiment number 4 – ‘Implementation of channel coding using FPGA’ can be moved to VLSI lab.	Implemented
13.	In Electronics Circuits practical course of fourth semester, Class B and Class C power amplifiers may be included.	Implemented
14.	Industrial experts may be included in Examiner Panel list for conducting practical courses and project viva.	Implemented
15.	A one credit course JTAG may be introduced in 2015-regulation as an elective.	Implemented
16.	In 2015 regulation, Students by their own can invite problem from industries for internship programme. They can complete their intern process in Institution itself with Industry support. Student should do this process under a mentor with continuous monitoring.	Implemented
17.	In 2015-R, the open elective syllabus content may be redefined so that other department students may opt the same.	Implemented
18.	For PG Curriculum R-2019, Artificial Intelligence, Machine Learning, Pattern Recognition and IoT may be included as electives.	Implemented
19.	For all the PG Syllabus under R-2019, Knowledge levels (K) may be modified appropriately for the respective Course Outcomes.	Implemented
20.	Pedagogic course syllabus content may be redefined in the PG syllabus under R-2019.	Implemented



Department of Computer Science and Engineering

MINUTES of 12<sup>th</sup> Meeting of the Board of studies held on  
23<sup>th</sup> November, 2019 at 10.30 AM

Venue: Conference Hall  
National Engineering College, K.R.Nagar, Kovilpatti – 628 503

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Department of Computer Science and Engineering

**National Engineering College, K.R.Nagar, Kovilpatti – 628 503**

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12<sup>th</sup> Board of studies Meeting in the Department of  
**Computer Science and Engineering**

Venue: Conference Hall, National Engineering College  
K.R.Nagar, Kovilpatti – 628 503

Date & Time: 23.11.2019 & 10.30 AM

Agenda

BoS / CSE 12.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the department of Computer Science and Engineering
BoS / CSE 12.2	:	Confirmation of the Minutes of the 11 <sup>th</sup> meeting of Board of studies in the department of Computer Science and Engineering held on 18 <sup>th</sup> May 2019 and Action taken report of 11 <sup>th</sup> meeting of Board of studies
BoS / CSE 12.3	:	Business brought forward by the Chairman, Board of studies 12.3.1. The syllabus for III Year - B.E-CSE degree course offered under Regulation 2019. 12.3.2. The syllabus for B.E-CSE degree additional one credit courses offered under Regulation 2015
BoS / CSE 12.4	:	Any other items
BoS / CSE 12.5	:	Suggestions given by the BoS Members

Department of Computer Science and Engineering  
National Engineering College, K.R.Nagar, Kovilpatti – 628 503  
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F. No. 1-1/NEC/CSE

23<sup>th</sup> November, 2019

Dear Sir,

**Sub: *Minutes of the 12<sup>th</sup> Meeting of the Board of studies in the Computer Science and Engineering -Reg.***

Kindly find attached herewith the Minutes of the 12<sup>th</sup> Meeting of Board of studies of the Computer Science and Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628 503 held on 23<sup>th</sup> November 2019 at 10.30 AM in the Conference hall of 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 hodcse@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



Dr.V.Gomathi

Department of Computer Science and Engineering

**National Engineering College, K.R.Nagar, Kovilpatti – 628 503**

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

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**MINUTES OF THE MEETING**

The 12<sup>th</sup> Meeting of the Board of studies of the Computer Science and Engineering was held on 23<sup>th</sup> November, 2019 at 10.30 AM in the Conference Hall of the National Engineering College, K.R.Nagar, Kovilpatti – 628 503

1. The following members were present:

1.	Dr.V.GOMATHI Professor & Head	Chairman
2.	Dr.K.G.Srinivasagan, Professor	Internal Members
3.	Dr.V.Kalaivani, Professor	
4.	Dr.K.Mohaideen Pitchai, Associate Professor (SG)	
5.	Dr.V.Kavidha, Associate Professor	
6.	Dr.S.Maheswari, Associate Professor	
7.	Dr.M.Bhuvaneswari, Assistant Professor (SG)	
8.	Ms.J.Naskath, Assistant Professor (SG)	
9.	Ms.M.Jayalakshmi, Assistant Professor (SG)	
10.	Ms.R.Rajakumari, Assistant Professor (SG)	
11.	Mr.D.Vijayakumar, Assistant Professor (SG)	
12.	Ms.S.Kalaiselvi, Assistant Professor (SG)	
13.	Ms.G.Sivakamasundari, Assistant Professor (SG)	
14.	Ms.G.R.Hemalakshmi, Assistant Professor (SG)	
15.	Dr.V.Sivakumar, Assistant Professor	
16.	Ms.V.Anusuya Devi, Assistant Professor	
17.	Dr. C.Krishna Mohan Professor & Head Dept. of Computer Science and Engineering, Indian Institute of Technology Hyderabad, Hyderabad.	Academic Experts
18.	Dr. C. Mala Professor,	

	Dept. of Computer Science and Engineering, National Institute of Technology Trichy, Trichy.	
19.	Mr.Srinivasan Rajendren, Service Delivery Manager, Tata Consultancy Services, Chennai.	Industrial Experts
20.	Mr.D.Siddharthan, Delivery Manager, Wipro Technologies Pvt. Ltd, Chennai.	
21.	Mr.Somu Chockalingam President ,Doyen Systems Pvt Ltd, Chennai.	Adjunct faculty & Alumni
22.	Mr.Manikanda Raman Viswanathan, Principal Architect, Cognizant Digital Operations, CTS,Chennai.	
23.	Ms. Preethi.S , IV year CSE	Student Members Nominated by the HOD
24.	Mr. Vigneshwaran.R, IV year CSE	

2. Dr. K.S. Easwarakumar, Professor, Dept. of Computer Science and Engineering CEG Campus, Anna University, Chennai, Dr.G.R.Karpagam, Professor, Dept. of Computer Science and Engineering, PSG College of Technology, Coimbatore, Dr.G.Kousalya ,Professor & Head of the Department, Dept. of Computer Science and Engineering, Coimbatore Institute of Technology, Coimbatore and the Expert Members Mr.Lawrence Mohanraj, Country Lead -Academic Initiative, IBM Pvt Limited, Chennai, Mr.Roy Antony Arnold, Lead - Education and Research, Infosys Pvt Ltd., Chennai, Ms.G.Maria Justin Mary, IT-Lead Remedy Application, Honeywell Technology Solutions, Madurai could not attend the meeting due to their prior commitments and unavoidable reasons and were granted leave of absence.

BoS / CSE 12.1 : WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

The Chairman, BoS of the Computer Science and Engineering welcomed and introduced the members of 12<sup>th</sup> Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS / CSE 12.2 : TO CONFIRM THE MINUTES OF ELEVENTH BOS MEETING HELD ON 18<sup>th</sup> May, 2019

The minutes of the **Eleventh Board of Studies meeting** held on 18<sup>th</sup> May, 2019 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 11<sup>th</sup> Academic council.

➤ **Action Taken Report**

(Enclosed in Annexure I)

BoS/CSE 12.3.1 : **TO CONFIRM AND APPROVE THE SYLLABUS FOR THE THIRD YEAR UG DEGREE PROGRAMME TO BE OFFERED UNDER R-2019**

**RESOLVED TO** approve the Syllabus for the Third year UG degree programme to be offered under R-2019

➤ **R-2019 B.E-CSE Third Year Syllabus**

(Enclosed in Annexure II)

BoS/ CSE 12.3.2 : **TO CONFIRM AND APPROVE THE SYLLABUS FOR THE ADDITIONAL ONE CREDIT COURSES FOR UG DEGREE PROGRAMME TO BE OFFERED UNDER R-2015**

**RESOLVED TO** approve the Syllabus for the additional one credit courses to be offered under R-2015

➤ **R-2015 Additional one credit courses Syllabus**

(Enclosed in Annexure III)

BoS / CSE 12.4 : **ANY OTHER ITEMS, IF ANY, WITH THE PERMISSION OF THE CHAIRMAN OF THE BOS**

On the whole, this new initiative was very much appreciated by all members. The challenges faced can be periodically discussed with them. They also congratulated the faculty members for their team efforts towards continuing Education.

BoS / CSE 12.5 : **SUGGESTIONS GIVEN BY THE BOS MEMBERS**

- 12.5.1 : Problem solving techniques course to be taught in the first semester, and python programming may be taught in a later semester.
- 12.5.2 : A basic concept of programming course is mandatory for all department students.
- 12.5.3 : Professional English and Biology for Engineers courses may be offered as one-credit courses.
- 12.5.4 : Communication skills Laboratory course in the third semester may be moved into the second semester.
- 12.5.5 : Digital Principles and System Design & Computer Organization and Architecture courses to be taught in different semesters.
- 12.5.6 : Embedded programming course may be renamed as Embedded Systems in the fifth semester.
- 12.5.7 : Seven theory and three laboratory courses are too heavy for students. It may be fixed as six theory and two laboratory courses in a semester.
- 12.5.8 : Machine Learning, Deep Learning, and Data Analytics laboratory courses may be included as one credit courses.
- 12.5.9 : Spring framework and Hibernate framework may be added in the Advanced Java Programming elective course.
- 12.5.10 : The laboratory courses, may be practiced as concepts, not exercises and the exercise programs can be given as a tutorial in theory courses.

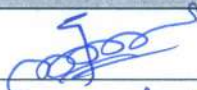







The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Syllabi.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.




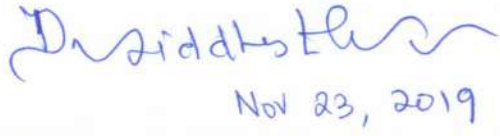
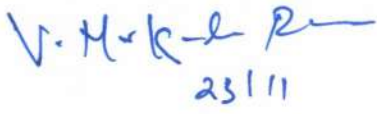

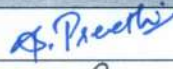

- The Syllabus for B.E. (Computer Science and Engineering, III Year) degree course offered under Regulation 2019.
- The Syllabus for Additional One credit courses for B.E. (Computer Science and Engineering) degree course offered under Regulation 2015.

Dr.V.Kavidha, Associate Professor, thanked all the members for their valuable suggestions and cooperation and the meeting came to an end.

**Members Present**

Dr.V.Gomathi Chairman	V.L. → 23/11/19
<b>Internal Members</b>	
Dr.K.G.Srinivasagan Professor	
Dr.V.Kalaivani Professor	V.Kal. 23/11/19
Dr.K.Mohaideen Pitchai Associate Professor (SG)	
Dr.V.Kavidha Associate Professor	
Dr.S.Maheswari Associate Professor	smaheswari
Dr.M.Bhuvaneshwari Assistant Professor (SG)	M. 
Ms.J.Naskath Assistant Professor (SG)	
Ms.M.Jayalakshmi Assistant Professor (SG)	
Ms.R.Rajakumari Assistant Professor (SG)	
Mr.D.Vijayakumar Assistant Professor (SG)	vjayakumar
Ms.S.Kalaiselvi Assistant Professor (SG)	
Ms.G.Sivakamasundari Assistant Professor (SG)	G.Sivakamasundari
Ms.G.R.Hemalakshmi Assistant Professor (SG)	G.R.Hemalakshmi
Dr.V.Sivakumar Assistant Professor	V.S.
Ms.V.Anusuya Devi Assistant Professor	V.L. → 23.11.19



<i>Academic Experts</i>	
Dr. C.Krishna Mohan , Professor & Head, Dept. of Computer Science and Engineering, Indian Institute of Technology Hyderabad, Hyderabad.	
Dr. C. Mala, Professor, Dept. of Computer Science and Engineering, National Institute of Technology Trichy, Trichy.	
<i>Industrial Experts</i>	
Mr.Srinivasan Rajendren, Service Delivery Manager, Tata Consultancy Services, Chennai.	
Mr.D.Siddharthan, Delivery Manager, Wipro Technologies Pvt. Ltd, Chennai.	
<i>Adjunct faculty and Alumni</i>	
Mr.Manikanda Raman Viswanathan, Principal Architect, Cognizant Digital Operations, CTS,Chennai.	
Mr.Somu Chockalingam, President , Doyen Systems Pvt Ltd, Chennai.	
<i>Student Members Nominated by the HOD</i>	
Ms. Preethi.S , IV year CSE	
Mr. Vigneshwaran.R, IV year CSE	

  
**CHAIRMAN**  
**BOARD OF STUDIES**

## Annexure I

### Actions Taken Report for Minutes of 11<sup>th</sup> BOS

As per BOS committee suggestions,

- Agile and DevOps concepts are included in the fifth unit of the Software Engineering Methodologies course.
- Digital Fundamentals by Thomas L. Floyd book is added as a reference book in the Digital principles and system design course.
- Computer Networks by Larry L. Peterson book is added as a textbook in the computer networks course.
- Visual Studio and codebase IDE software tools are added in the OOPS laboratory.
- Block chain Technology laboratory course is included as an elective in ME-CSE in R2019.



**CHAIRMAN  
BOARD OF STUDIES**

# Department of Electrical and Electronics Engineering

MINUTES 12<sup>th</sup> Meeting of the Board of studies held on  
8<sup>th</sup> November, 2019 at 10.30 AM

Venue: Conference Hall, National Engineering College, K.R.Nagar,  
Kovilpatti – 628 503

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# Department of Electrical and Electronics Engineering

National Engineering College, K.R.Nagar, Kovilpatti – 628 503

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## 12<sup>th</sup> Board of studies Meeting in the Department of Electrical and Electronics Engineering

Venue: Conference Hall, National Engineering College, K.R.Nagar,  
Kovilpatti – 628 503

Date & Time: 08.11.2019 & 10.30 AM

### AGENDA

BoS / EEE 12.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the Department of Electrical and Electronics Engineering
BoS / EEE 12.2	:	Confirmation of the Minutes of the 11 <sup>th</sup> meeting of Board of Studies in the Department of Electrical and Electronics Engineering held on May 18 <sup>th</sup> 2019, and Action Taken report of 11 <sup>th</sup> meeting of Board of studies
BoS / EEE 12.3	:	Business brought forward by the Chairman, Board of studies 12.3.1 Third year UG (B.E. – EEE) syllabus under R-2019 12.3.2 Elective Courses for UG (B.E. – EEE) under R-2019
BoS / EEE 12.4	:	Any other items
BoS / EEE 12.5	:	Suggestions given by the BoS Members

Department of Electrical and Electronics Engineering  
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F. No. 1-1/NEC/EEE.

8<sup>th</sup> November, 2019

Dear Sir/Madam,

*Sub: Minutes of the 12<sup>th</sup> Meeting of the Board of studies in the EEE-Reg.*

Kindly find attached herewith the Minutes of the 12<sup>th</sup> Meeting of Board of studies of the Electrical and Electronics Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628 503 held on 8<sup>th</sup> November, 2019 at 10.30 AM in the Conference Hall of 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 [hodeee@nec.edu.in](mailto:hodeee@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

  
Dr.M.Willjuice Iruthayarajan

## Department of Electrical and Electronics Engineering

### MINUTES OF THE MEETING

The 12<sup>th</sup> Meeting of the Board of studies of the Electrical and Electronics Engineering was held on 8<sup>th</sup> November 2019 at 10.30 AM in Conference Hall of the National Engineering College, K.R.Nagar, Kovilpatti – 628 503.

The following members were present:

1.	Dr.M.Willjuice Iruthayarajan Professor and Head/ EEE	Chairman
2.	Dr.L.Kalaivani Professor/ EEE	Internal Members
3.	Dr.R.V.Maheswari Professor/ EEE	
4.	Dr.M.Ravindran Associate Professor (S.G) / EEE	
5.	Dr.N.B.Prakash Associate Professor / EEE	
6.	Dr.G.Kannayeram Assistant Professor(S.G) / EEE	
7.	Dr.M.P.E.Rajamani Assistant Professor (S.G) / EEE	Academic Expert
8.	Dr. V. Suresh Kumar, Professor, Department of Electrical and Electronics Engineering, Thiagarajar College of Engineering, Madurai, Tamilnadu.	
9.	Dr. Rajesh Joseph Abraham Associate Professor, Department of Avionics, Indian Institute of Space Science and Technology, Valiamala P.O., Thiruvananthapuram, Kerala.	University Nominee
10.	Dr. S. Usa, Professor, Department of Electrical and Electronics Engineering, CEG Campus, Anna University, Chennai.	

11.	Dr. Santosh Kumar Annadurai GE T&D Ltd., GIS R&D Centre, Unit R&D Head, Padappai, Chennai.	Industrial Expert
12.	Mr. M. Ramesh Senior Technical Engineer, Hardware Design and Development, Data Patterns India Pvt. Ltd., Chennai.	
13.	Mr. S. Joseph Francis, Pre-Final Year / EEE	Student Members
14.	Ms. H. Selvadevi, Pre-Final Year / EEE	

The Industrial Experts Dr.S.Paramasivam, R&D Head, Electrical Drives, Danfoss Industries Ltd., Chennai, Dr. Hariram Satheesh, Principal Scientist, ABB Global Industries and Services Ltd, Bangalore, Mr.S.Subramanian, Senior Maintenance Engineering (I), Kudankulam Nuclear Power Project, Kudankulam, and Meritorious Alumnus Mr.R. Jayakumar, Assistant Vice President, Wipro Technology Ltd., Bangalore could not attend the meeting due to their prior commitments and unavoidable reasons and were granted leave of absence.

BoS / EEE 11.1 : WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

The Chairman, BOS of the Electrical and Electronics Engineering welcomed and introduced the members of 12<sup>th</sup> Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS / EEE 11.2 : TO CONFIRM THE MINUTES OF ELEVENTH BOS MEETING HELD ON 18<sup>th</sup> MAY 2019

The minutes of the Eleventh Board of Studies meeting held on 18<sup>th</sup> May 2019 were communicated to the members vide letter No. F. No. 1-1/NEC/EEE, Dated 18.05.2019. The comments received have been incorporated and placed for confirmation.

The same was approved by the 11<sup>th</sup> Academic council.

➤ Minutes of 11<sup>th</sup> Board of Studies

➤ Action Taken Report

(pdf file attached in hyperlink)

BoS / EEE 12.3.1 : TO CONFIRM AND APPROVE THE SYLLABUS OF THIRD YEAR FOR UG (B.E. – EEE) PROGRAMME UNDER R-2019

RESOLVED TO approve the syllabus of Third year for UG (B.E. – EEE) PROGRAMME under R-2019

R-2019 Syllabus for Third year

Bos/EEE 12.3.2 : TO CONFIRM AND APPROVE THE ELECTIVE COURSES FOR UG (B.E. – EEE) PROGRAMME UNDER R-2019

RESOLVED TO approve the elective courses for UG (B.E. – EEE) programme R-2019

R-2019 Curriculum and Syllabus for Elective Courses

Bos/EEE 12.4 : ANY OTHER ITEMS, IF ANY, WITH THE PERMISSION OF THE CHAIRMAN OF THE BOS

12.4.1 : The BoS chairman proposed to include the course “Embedded and Real Time Systems” as programme elective course as Amendment in R-2015 UG (B.E. EEE) Curriculum.

12.4.2 : The BOS members had a good interaction with chairman, internal members and student members regarding syllabus formation for R-2019.

Bos/EEE 12.5 : SUGGESTIONS GIVEN BY THE BOS MEMBERS

12.5.1 : In the course “Power Systems – I and Power Systems – II”, the syllabus may be completely refined to include “Switg gear and Protection” as a separate core course instead of one open elective course and proposed to present in the upcoming BoS meeting for approval.

12.5.2 : In the course “Control System”, the topic compensator design using Bode plot may be specified in the Unit – V.



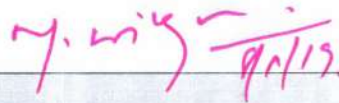




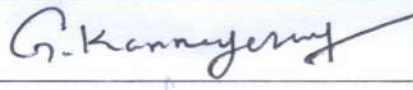


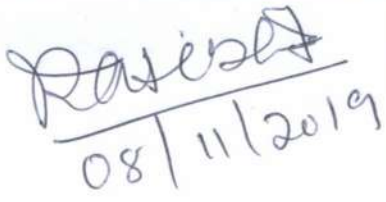
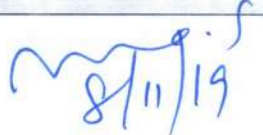
- 12.5.3 : In the course “Microprocessor and Microcontroller Laboratory”, the experiment related to PWM generation may be included.
- 12.5.4 : In the course “Power System Simulation and High Voltage Laboratory”, the title of experiments may be rephrased.
- 12.5.5 : In the course “Power Electronics”, the syllabus may be refined to include, Protection circuit in Unit – I, RL load for phase controlled rectifiers in Unit – II, Control strategies of DC-DC converters in Unit – III, Isolated converter in Unit – IV. Application of power electronics circuit in Unit – V.
- 12.5.6 : In the course “High Voltage Engineering”, the topics such as estimation of over voltage, reflection and refraction of travelling waves, insulation coordination may be included in Unit – I. The title of Unit – II may be modified as “ Dielectrics and Breakdown Mechanism”, and further the topics such as properties of dielectrics, applications and maintenance of dielectrics may be included. In Unit – IV digital measurement techniques may be included.
- 12.5.7 : In the course “Power Electronics Laboratory”, simulation of power converters may be included.
- 12.5.8 : In the elective course “Electrical Drives”, classes of duty in Unit – I, chopper fed drive in Unit – II, and concept of vector control in Unit – IV may be included. Unit – III may be refined.
- 12.5.9 : In the elective course “ HVDC Transmission Systems”, topics such as harmonic analysis and filters may be included in Unit – II.

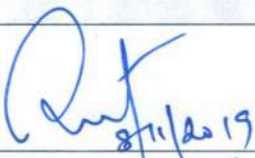



The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and Syllabi.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

Dr. N. B. Prakash, Associate Professor /EEE thanked all the members for their kind cooperation and the meeting came to an end.

**Members Present**

Dr.M.Willjuice Iruthayarajan, Chairman,BoS/EEE	
<i>Internal Members</i>	
Dr.L.Kalaivani Professor/ EEE	
Dr.R.V.Maheswari Professor/ EEE	
Dr.M.Ravindran Associate Professor (S.G) / EEE	
Dr.N.B.Prakash Associate Professor / EEE	
Dr.G.Kannayeram Assistant Professor(S.G) / EEE	
Dr.M.P.E.Rajamani Assistant Professor (S.G) / EEE	
<i>Academic Experts</i>	
Dr. V. Suresh Kumar, Professor/EEE Thiagarajar College of Engineering, Madurai.	
Dr. Rajesh Joseph Abraham Associate Professor, Department of Avionics, Indian Institute of Space Science and Technology, Thiruvananthapuram, Kerala.	
<i>University Nominee</i>	
Dr. S. Usa, Professor/EEE CEG Campus, Anna University, Chennai.	

<i>Industrial Experts</i>	
Dr. Santosh Kumar Annadurai, GE T&D Ltd., GIS R&D Centre, Unit R&D Head, Padappai, Chennai.	 8/11/2019
Mr. M. Ramesh, Senior Technical Engineer, Hardware Design and Development, Data Patterns India Pvt. Ltd., Chennai.	
<i>Student Members Nominated by the HOD</i>	
Mr. S. Joseph Francis, Pre-Final Year /EEE National Engineering College, Kovilpatti	
Ms. H. Selvadevi, Pre-Final Year /EEE National Engineering College, Kovilpatti	

  
CHAIRMAN  
BOARD OF STUDIES

## Action Taken on Suggestions from 11<sup>th</sup> BOS Meeting

<b>Suggestions</b>	<b>Action Taken</b>
In the course "Electrical Circuit Analysis", the syllabus may be completely refined similar to R-2015 with some inclusions of topics such as real and reactive power, power factor and two port networks.	Syllabus has been reframed similar to R-2015 with all topics included as per suggestions.
In the course "Analog Electronics", the content related to JFET may be removed. Digital to analog conversion topic should be included. The credit may be increased from 3 to 4.	All corrections are incorporated in the syllabus as per suggestions
In the course "Analog Electronics Laboratory", the experiment related to transistor biasing, integrator and differentiator may be removed. Regulator experiments may be included.	
In the course "Electrical Machines I", the contents related to transformers such as vector groups and standards may be included.	
In the course "Electromagnetic Fields", the content related to application of EMI/EMC (qualitative) may be included.	
In the course "Digital Electronics", the contents related to recent converters, EEPROM and Flash memory size calculation may be included. Title of unit-V may be renamed as hardware programming language.	
In the course "Digital Electronics Laboratory", the experiment of VHDL coding for simple circuits may be included.	
In the course "Measurement and Instrumentation", the contents such as optical CT, CVT, IVT, Rogowski-hall sensor and introduction to virtual instrumentation may be included. Title of unit-V may be renamed as digital instrumentation.	
In the course "Measurement and Instrumentation Laboratory", the experiment on hall effect sensor may be included.	
In the course "signals and systems", the contents such as unit impulse and notion of frequency response and its relation to the impulse response may be included.	

  
 01/11/2019  
**EEE Board Chairman**

Department of Information Technology

MINUTES of 12<sup>th</sup> Meeting of the Board of studies held on  
02<sup>nd</sup>Nov, 2019 at 11.00 AM

Venue: Department of Information Technology,  
National Engineering College, K.R.Nagar, Kovilpatti – 628503

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Department of Information Technology

Department of Information Technology

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

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12<sup>th</sup> Board of studies Meeting in the Department of  
**Information Technology**

Venue: Department of IT, National Engineering College  
K.R.Nagar, Kovilpatti – 628503

Date & Time: 02.11.2019 & 11.00 a.m.

Agenda

- BoS / IT 12.1 : Welcome address and Opening Remarks by Chairman, Board of studies in the department of Information Technology
- BoS / IT 12.2 : Confirmation of the Minutes of the 11<sup>th</sup> meeting of Board of studies in the department of Information Technology held on 4<sup>th</sup> MAY 2019 and Action taken report of 11<sup>th</sup> meeting of Board of studies
- BoS / IT 12.3 : Business brought forward by the Chairman, Board of studies
- 12.3.1 III,IV year Syllabus including elective courses for UG degree programmes under R-2019
- BoS / IT 12.4 : Any other items
- BoS / IT 12.5 : Suggestions given by the BoS Members

Department of Information Technology

National Engineering College, K.R.Nagar, Kovilpatti – 628 503

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F. No. 12.1/NEC/ IT/2018-19

02<sup>nd</sup> Nov, 2019

Dear Sir/Madam,

**Sub: Minutes of the 12<sup>th</sup> Meeting of the Board of studies in the Information Technology - Reg.**

Kindly find attached herewith the Minutes of the 12<sup>th</sup> Meeting of Board of studies of the Information Technology of National Engineering College, K.R.Nagar, Kovilpatti – 628503 held on 02<sup>nd</sup>Nov, 2019 at 11.00 AM in the department of Information Technology of 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 [hodit@nec.edu.in](mailto:hodit@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

  
(Dr.D.Manimegalai)

# National Engineering College, K.R.Nagar, Kovilpatti – 628 503

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

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## MINUTES OF THE MEETING

The 12<sup>th</sup> Meeting of the Board of studies of the Information Technology was held on 02<sup>nd</sup> Nov 2019 at 11.00 AM in the Department of Information Technology of National Engineering College, K.R.Nagar, Kovilpatti – 628503.

1. The following members were present:

1.	Dr.D.Manimegalai	Chairman
2.	Dr.V.Seenivasagam, Prof. & COE	Internal Members
3.	Dr.B.Paramasivan, Professor	
4.	Dr.R.Muthukumar, Asso. Prof.	
5.	Mr.S.Chidambaram, Asst. Prof. (SG)	
6.	Dr.S.Rajagopal, Asst. Prof. (SG)	
7.	Ms.V.Anitha, Asst. Prof.	
8.	Ms.R.Priyadharshini, Asst. Prof.	
9.	Mr.S.Rajendran, Adjunct Faculty	
10.	Dr.S.Swamynathan, Professor, Department of Information Science &Technology, Anna University, Chennai.	University Nominee
11.	Dr.P.Yogesh, Professor, Department of Information Science &Technology, Anna University, Chennai.	Academic/Alumni Expert
12.	Dr.A.Soundarrajan Professor, Department of Electronics &Electrical Engineering, PSG College of Technology,Coimbatore.	Special Invitee
13.	Shri .E.Khalieraaj Regional Director, National Cyber Defence Research Centre(NCDRC) Team National Cyber Safety and Security Standards	Special Invitee
14.	Mr.Antony Arravindh, Senior Project Manager, HCL Technologies, Chennai.	Alumni/Industrial Expert
15.	Dr.K.M.Suceendran, General Manager, Tata Consultancy Services, Chennai.	Industrial Expert
16.	Ram Prasath. M, Final year	Student Members
17.	Nabishathul Missriya. A, Final year	



2. The Special Invitee Shri. E. Khalieraj Regional Director, National Cyber Defence Research Centre (NCDRC) Team, New Delhi and Industrial Expert Dr.K.M.Suceendran, General Manager, Tata Consultancy Services, Chennai could not attend the meeting due to their prior commitments and unavoidable reasons and were granted leave of absence.

BoS / IT 12.1	:	WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF INFORMATION TECHNOLOGY
		The Chairman, BoS of the Information Technology welcomed and introduced the members of 12 <sup>th</sup> Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.
BoS / IT 12.2	:	TO CONFIRM THE MINUTES OF ELEVENTH BOS MEETING HELD ON 4 <sup>th</sup> MAY, 2019
		<p>The minutes of the <b>Eleventh Board of Studies meeting</b> held on 4<sup>th</sup> May, 2019 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 11<sup>th</sup> Academic council.</p> <p>➤ <b>Action Taken Report</b> (Enclosed in <i>Annexure I</i>)</p>
BoS / IT 12.3.1	:	TO CONFIRM AND APPROVE THE III,IV YEAR SYLLABUS INCLUDING ELECTIVE COURSES FOR UG DEGREE PROGRAMMES UNDER R-2019
	:	<b>RESOLVED TO</b> approve the III, IV year Syllabus including elective courses for UG degree programmes under R-2019
BoS / IT 12.4	:	ANY OTHER ITEMS, IF ANY, WITH THE PERMISSION OF THE CHAIRMAN OF THE BOS
		On the whole, the proposed Syllabus for III, IV year under R2019 was very much appreciated by all members. They also congratulated the faculty members for their team efforts towards continuing Education.

BoS / IT 12.5	:	<b>SUGGESTIONS GIVEN BY THE BOS MEMBERS</b>
12.5.1	:	In <b>Object Oriented Programming</b> Unit I to IV must cover C++ and Unit V may comprise Java Fundamentals.
12.5.2	:	<b>Information Systems</b> is renamed and reframed as Algorithmics.
12.5.3	:	<b>Java Programming</b> syllabus must be reframed covering few topics such as GUI, AWT, Swing, Concurrent Programming, and Distributed Programming.
12.5.4	:	In <b>Software Engineering</b> Unit IV &V must be combined together. Unit V must include topics related to Software Management.
12.5.5	:	<b>Internet and Web Technology</b> must be reframed covering few topics such as Servlets, JSP, Angular JS, and Node JS.
12.5.6	:	In <b>Embedded System</b> more topics related to Microprocessors and microcontrollers must be added.
12.5.7	:	In <b>Java Programming Laboratory</b> specific programs may be changed to Generic form.
12.5.8	:	In <b>Cryptography and Network Security Laboratory</b> programs related to tools on Network Security must be included and CO's must be reframed accordingly.
12.5.9	:	In <b>Internet and Web Technology Laboratory</b> programs must be reframed with reference to changes in Theory content.
12.5.10	:	In <b>Big Data Analytics</b> few topics such as NoSQL, Graph, Stream Analysis Supervised and Unsupervised Data must be added.
12.5.11	:	In <b>Enterprise Mobility</b> units under the Syllabus must be reordered.
12.5.12	:	In <b>Big Data Analysis Laboratory</b> CO2 must be changed. Data Visualization Tools must be included.
12.5.13	:	Web references for each Subject may be added.











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



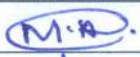

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.


- a) The syllabus under Regulations 2019 for III and IV Year B.Tech. Information Technology including elective courses for UG degree programmes under R-2019.

Dr.S.Rajagopal, Asst. Prof. (SG) thanked all the members for their kind cooperation and the meeting came to an end.

### Members Present

Dr.D.Manimegalai, Prof & Head ,Board Chairman	
<b>Internal Members</b>	
Dr.V.Seenivasagam, Prof. & COE	
Dr.B.Paramasivan, Professor	
Dr.R.Muthukkumar, Asst. Prof. (SG)	
Mr.S.Chidambaram, Asst. Prof. (SG)	
Dr.S.Rajagopal, Asst. Prof. (SG)	
Ms.V.Anitha, Asst. Prof.	
Ms.R.Priyadharshini, Asst. Prof.	
Mr.S.Rajendran, Adjunct Faculty	
<b>University Nominees</b>	
Dr.S.Swamynathan, Professor, Department of Information Science &Technology, Anna University, Chennai.	 2.11.2019
<b>Academic / Alumni Expert</b>	
Dr.P.Yogesh, Professor, Department of Information Science &Technology, Anna University, Chennai.	 2-11-19

<b>Alumni / Industrial Expert</b>	
Mr. Antony Arravindh, <del>Senior</del> Project Manager, HCL Technologies, Chennai.	
<b>Special Invitee</b>	
Dr.A.Soundarrajan Professor, Department of Electronics &Electrical Engineering, PSG College of Technology,Coimbatore.	
<b>Student Members</b>	
Ram Prasath. M, Final year	
Nabishathul Missriya. A, Final year	

  
**CHAIRMAN**  
**BOARD OF STUDIES**

## ANNEXURE I

### **Actions taken for Minutes of 11<sup>th</sup> BoS Meeting**

As per BOS Committee suggestion,

- **Object Oriented Programming** syllabus has been reframed.
- **Principles of Data Communication** has been shifted to third semester and Information Technology Essentials is reframed and renamed as **Information Systems** and it has been shifted to fourth semester.
- Total No. of hours for the subject **Discrete Mathematics** is changed as 12 for each Unit. In **Statistics and Numerical Methods** units 1,2 and 3 includes Statistics and units 4,5 covers Numerical Methods.
- In **Communication Skills Laboratory** students are asked to be given training for writing practices.
- In **Object Oriented Programming Laboratory** some exercises are found to be more generic. So it is has been changed to specific programs.
- In **Computer Organization and Architecture** Unit-3 comprises the concepts of pipeline and parallel processing. A prerequisite of Computer Organization and Architecture is added for the subject Operating Systems.
- Few exercises in **Operating Systems Laboratory** has been reframed.
- Protocols like I2B,B2B has been included under Unit-5 of **Computer Networks**.
- Syllabus for **M.Tech (Information and CyberWarfare)** under R-2019 has been discussed.
- **One credit courses** that are to be included under R-2015 are also recommended.

  
CHAIRMAN

BOARD OF STUDIES

Department of Civil Engineering

MINUTES of the 9<sup>th</sup> Meeting of the Board of Studies held on  
06<sup>th</sup> November 2019, 11:00 am

Venue: Conference Hall,  
National Engineering College, K.R.Nagar, Kovilpatti – 628503

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9<sup>th</sup> Board of Studies Meeting in the Department of  
**Civil Engineering**

Venue: Conference Hall, National Engineering College,  
K.R.Nagar, Kovilpatti – 628503

Date & Time: 06.11.2019 & 11.00 am

Agenda

BoS / CIVIL9.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the department of Civil Engineering
BoS / CIVIL9.2	:	Confirmation of the Minutes of the 8 <sup>th</sup> meeting of Board of studies in the department of Civil Engineering held on 3 <sup>rd</sup> May 2019 and Action taken report of 8 <sup>th</sup> meeting of Board of studies
BoS / CIVIL9.3	:	Business brought forward by the Chairman, Board of studies 9.3.1 The Curriculum and Syllabus of Fifth and Sixth Semester for UG Degree Programme under Regulation 2019. 9.3.2 The Curriculum of One Credit and Open Elective Courses under Regulation 2019. 9.3.3 Modification in Curriculum Regulation 2019. 9.3.4 Suggestions and Recommendations needed for changes in 2 <sup>nd</sup> semester engineering mechanics syllabus under Regulation 2019.
BoS / CIVIL9.4	:	Any other items
BoS / CIVIL9.5	:	Suggestions given by the BoS Members

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F. No. 1-1/NEC/Civil Engg.

06.11.2019

Dear Sir/Madam,

**Sub: *Minutes of the 9<sup>th</sup> Meeting of the Board of Studies in the Civil Engineering - Reg.***

Kindly find attached herewith the Minutes of the 9<sup>th</sup> Meeting of Board of studies of the Civil Engineering of the National Engineering College, K.R.Nagar, Kovilpatti – 628503 held on 06.11.2019 at 11.00 AM in the Conference Hall, 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 [hodcivil@nec.edu.in](mailto:hodcivil@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



Dr.C.PuthiyaSekar



## Department of Civil Engineering

### MINUTES OF THE MEETING

The 9<sup>th</sup> Meeting of the Board of Studies of the Civil Engineering was held on 6<sup>th</sup> November 2019 at 11:00 am in the Conference Hall of the National Engineering College, K.R.Nagar, Kovilpatti- 628503

The following members were present:

1	<b>Dr.C.PuthiyaSekar</b> Professor& Head	Chairman
2	Mrs. S.Sebastin AP-Civil	Internal Members
3	Ms.C.ChellaGifita AP-Civil	
4	Mr.S.Daniel Raj AP-Civil	
5	Mrs.M.Balamaheshwari AP-Civil	
6	Mr.V.Arulpandian AP-Civil	
7	Ms.B.Anitha AP-Civil	
8	<b>Dr. S. Arul Jayachandran,</b> Professor, Department of Civil Engineering, Indian Institute Technology Madras, Chennai -600 036.	Academic Experts
9	<b>Dr.P.Jayabalan</b> Professor , Department of Civil Engineering, National Institute of Technology Trichy	
10	<b>Dr.T.Velrajan,</b> Professor, Department of Civil Engineering, Thiagarajar college of Engineering, Madurai- 625 015.	
11	<b>Dr.K.Chinnaraju,</b> Associate Professor, Department of Civil Engineering, College of Engineering Guindy campus, Anna University,Chennai-600 025.	University Nominee
12	<b>Dr.P.D.Arumairaj,</b> Principal Consultant, AlzumGeoCivil Integrated Services, Thadagam Road, Coimbatore -6414 025.	Industrial Expert

13	<b>Dr. Colonel.P. Nallathambi ,</b> Principal Structural Consultant, Sakthi Consultancy Pvt Ltd. Chromepet, Chennai -600 044.	Industrial Expert
14	Ms.Thanuja.G, Third year	Student Members
15	Mr.Mubashir Qayoom,Third year	

BoS / CIVIL 9.1 : WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN,  
BOARD OF STUDIES IN THE DEPARTMENT OF CIVIL  
ENGINEERING

The Chairman, BoS of the Civil Engineering welcomed and introduced the members of 9<sup>th</sup> Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS / CIVIL 9.2 : TO CONFIRM THE MINUTES OF EIGHTH BOS MEETING HELD ON  
8<sup>th</sup> MAY, 2019

The minutes of the **Eighth Board of Studies meeting** held on 8<sup>th</sup> MAY, 2019 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 8<sup>th</sup> Academic council.

➤ **Action Taken Report**

(Enclosed in Annexure I)

BoS/CIVIL 9.3.1 : **TO CONFIRM AND APPROVE THE CURRICULUM AND SYLLABUS OF FIFTH AND SIXTH SEMESTER FOR THE UG DEGREE PROGRAMME TO BE PROPOSED UNDER R-2019**

**RESOLVED TO** approve the Curriculum and Syllabus for the UG degree programme to be proposed under R-2019

BoS/CIVIL 9.3.2 **TO CONFIRM AND APPROVE CURRICULUM OF ONE CREDIT AND OPEN ELECTIVE COURSES FOR THE UG DEGREE PROGRAMME TO BE PROPOSED UNDER R-2019**

**RESOLVED TO** approve the Curriculum of one credit and open elective courses for the UG degree programme to be proposed under R-2019.

BoS/CIVIL 9.3.3 **TO CONFIRM AND APPROVE THE MODIFICATION IN CURRICULUM OF REGULATION 2019**

**RESOLVED TO** approve the modification in Curriculum of Regulation 2019.

BoS / CIVIL 9.4 : **ANY OTHER ITEMS, IF ANY, WITH THE PERMISSION OF THE CHAIRMAN OF THE BOS**

The BoS members had a discussion with the internal members regarding the proposed Curriculum under R-2019

BoS / CIVIL 9.5 : **SUGGESTIONS GIVEN BY THE BOS MEMBERS**

**The suggestions given by the BoS Members in Fifth semester under R 2019.**

- 9.5.1 In the curriculum, BoS recommended that the course named as Highway Engineering to be shift to fifth position and Professional Ethics and Human Values to be shift to sixth position.
- 9.5.2 In the curriculum, BoS recommended that the course named as Structural Analysis I to be change as Basic Structural Analysis.
- 9.5.3 In Unit I of Design of Reinforced Concrete Elements, BoS recommended that the topic of analysis and behavior study of reinforced concrete member to be remove and detailing of Reinforcement to be include behind the concepts of designs.
- 9.5.4 In Unit II of Design of Reinforced Concrete Elements, BoS recommended to change the title as Limit State Design of Beams (Flexure, Shear, Torsion) and the topic design of slab to be shift to unit III.
- 9.5.5 In Unit III of Design of Reinforced Concrete Elements, BoS recommended that the topic named as design of staircase to be include and the title to be change as Limit State Design of Slabs, Staircase.
- 9.5.6 In Unit IV of Design of Reinforced Concrete Elements, BoS recommended that to include the topics of Introduction of Short and Long Column and design of various section of members of Short column.
- 9.5.7 In Unit IV of Design of Reinforced Concrete Elements, BoS recommended that to remove the topics of Design of Long Column.
- 9.5.8 In Unit V of Design of Reinforced Concrete Elements, BoS recommended the topic named as pad and sloped footing to be mention in the design of rectangular footing.
- 9.5.9 In Unit V of Design of Reinforced Concrete Elements, BoS recommended that the topic named as standard method of detailing of RC members to be remove.
- 9.5.10 In the syllabus of Design of Reinforced Concrete Elements, BoS recommended that to shift the text books under the author of Varghese PC, Krishnaraju N to references and the books under the authors of Jain AK, Sinha is mentioned in references to be shift to Text books.
- 9.5.11 In the syllabus of Design of Reinforced Concrete Elements, BoS recommended that to include the books under the author of ML Gambhir in the Text books.

- 9.5.12 In the syllabus of Wastewater Treatment and Management, BoS recommended that to remove the text book under the author of Duggal K.N.
- 9.5.13 In the syllabus of Foundation Engineering, BoS recommended that the books under the author of Varghese PC and Venkatramaiah.C to be remove from the references.
- 9.5.14 In the syllabus of Highway Engineering, BoS recommended that the content of the units to be specific.
- 9.5.15 In the syllabus of Concrete and Highway Laboratory, BoS recommended that to increase the number of course outcomes and include sieve analysis test for fine aggregates, CBR test for Bituminous mixes.
- 9.5.16 In the syllabus of Soil Mechanics Laboratory, BoS recommended that the experiment named as Relative density of sands to be modify as Relative density of soils.

**The suggestions given by the BoS Members in Sixth semester under R 2019.**

- 9.5.17 In the curriculum, BoS recommended that the course named as Estimation and Quantity Surveying to be change as Estimation and Costing.
- 9.5.18 In Unit I of Estimation and Costing, BoS recommended that the topic named as Estimation of embankments to be include in Quantity Estimation.
- 9.5.19 In Unit V of Estimation and Costing, BoS recommended that the topic named as Valuation to be change as Introduction to Valuation.
- 9.5.20 In the syllabus of Estimation and Costing, BoS recommended that the Unit IV named as Contracts to be shift to Construction Engineering and Management.
- 9.5.21 In the syllabus of Construction Engineering and Management, BoS recommended that the Unit III & Unit IV to be combined and named as Scheduling and Resource Management.
- 9.5.22 In Unit I of Design of Steel Structures, BoS recommended that the topic named as Section classification to be include and Design of Riveted connection to be removed.
- 9.5.23 In Unit I of Design of Steel Structures, BoS recommended that the topic named as Plastic Analysis of Beams to be include and the word name joint to be replace by connection.

9.5.24 In the syllabus of Structural Design and Drawing, BoS recommended that the experiment name Design of three dimensional truss system to be modify as Design of steel truss system.

**The suggestions given by the BoS Members in curriculum of Programme Elective & One Credit Elective Courses under R 2019.**

9.5.25 The course named as Structural Analysis II to be change as Advanced Structural Analysis .

9.5.26 The course named as Higher Surveying to be change as Advanced Surveying.

9.5.27 The course named as Irrigation Engineeirng to be add to Irrigation and Water Resource Engineering domain.

9.5.28 The course named as Advanced Structural Analysis to be change as Experimental Stress Analysis.

9.5.29 The course named as Advanced Structural Design to be remove and the course named as Non Destructive Testinto be add to Structural Engineering domain.

9.5.30 The course named as Building Marking is changed as Intelligent Building Marking in the curriculum of One Credit Elective Courses.

**General suggestions given by the BoS Members :**

9.5.31 It is recommended that no changes/modification is needed for Engineering Mechanics Syllabus in second semester under R 2019.

9.5.32 It is recommended that the course outcomes (CO's) for the courses in Fifth and Sixth semester under R 2019 should be improved and matched with Knowledge levels.


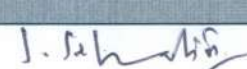


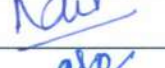

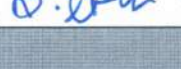



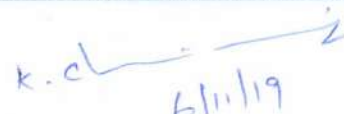
The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and Syllabi.

Based on the suggestions and recommendations given by the members, BoS resolved to recommend the following to the Academic Council for further approval.

- a) The second year syllabus for UG degree programme under R 2019.
- b) The modification in curriculum under R 2019.
- c) The list of Board of Examiners.

Ms.B.Anitha AP-Civil thanked all the members for their kind cooperation and the meeting came to an end.

### Members Present

<b>Board Chairman</b>	
<b>Dr.C.PuthiyaSekar</b> Professor & Head, Department of civil Engineering, National Engineering college, K.R.Nagar, Kovilpatti-628503.	
<b>Internal Members</b>	
Mrs. S. Sebastin AP-Civil	
Ms. C. Chella Gifta AP-Civil	
Mr. S. Daniel Raj AP-Civil	
Mrs. M. Balamaheshwari AP-Civil	
Mr. V. Arulpandian AP-Civil	
Ms. B. Anitha AP-Civil	
<b>Academic Experts</b>	
<b>Dr. S. Arul Jayachandran,</b> Professor, Department of Civil Engineering, Indian Institute Technology Madras, Chennai -600 036.	
<b>Dr. P. Jayabalan,</b> Professor, Department of Civil Engineering, National Institute of Technology, Trichy - 620015.	 6/11/19
<b>Dr. T. Velrajan,</b> Professor, Department of Civil Engineering, Thiagarajar college of Engineering, Madurai- 625 015.	
<b>University Nominees</b>	
<b>Dr. K. Chinnaraju,</b> Associate Professor, Department of Civil Engineering, College of Engineering Guindy campus, Anna University, Chennai-600 025.	 6/11/19

**Industrial Experts**

**Dr.P.D.Arumairaj,**  
Principal Consultant,  
AlzumGeoCivil Integrated Services,  
Thadagam Road, Coimbatore -6414 025.

**Dr. Colonel.P. Nallathambi ,**  
Principal Structural Consultant  
&Managing Director,  
Sakthi Consultancy Pvt Ltd.  
Chromepet, Chennai -600 044.

**Student Members Nominated by the HOD**

Ms.Thanuja.G –Final Civil

Mr.Mubashir Qayoom –Final Civil

**CHAIRMAN**

**BOARD OF STUDIES**

## ANNEXURE I

### Action taken for Minutes of 8<sup>th</sup> BoS Meeting

As per BoS Committee Suggestions,

1. Basic Mechanical Engineering course in semester 2 is shifted to semester 3 and it is combined with Energy Science Engineering.
2. Third semester course named as Engineering Survey is separated as Engineering Survey I in semester 3 and Engineering Survey II in semester 4 .
3. Third Semester laboratory named as Engineering Survey Practical is seperated as Engineering survey Practical I in semester 3 and Engineering Survey Practical II in semester 4.
4. Third semester course Engineering Geology is shifted to Program Elective Course under Geotechnical Engineering domain.
5. In curriculum of Fourth semester, Highway Engineering is shifted to fifth semester.
6. Fifth semester course Water & Waste water treatment & Management is seperated as (i) Water supply treatment and management in semester 4 (2) Waste water treatment and management in semester 5 .
7. The sixth semester course Project management and Finance course is shifted to 7<sup>th</sup> semester.
8. Construction material laboratory course in 4<sup>th</sup> semester is combined with 6<sup>th</sup> semester Highway Engineering Laboratory course and it is renamed as Concrete and Highway Engineering Laboratory in fifth semester.
9. The sixth semester course Structural Analysis II is shifted to Programme Elective course under Structural Engineering domain.
10. The fourth semester course Basic Geotechnical Engineering is renamed as Soil mechanics.



**CHAIRMAN**

**BOARD OF STUDIES**