School of Electronics & Communication Engineering

BOS Meeting Details for the Last Five Years

KLE Technological University

Creating Value
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Minutes

1st Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

11th July 2015

KLE Technological University

(Established under Karnataka Act No.22, 2013)

REGISTRAR
KLE Technological University
HUBBALLI-580 031

School of Electronics & Communication Engineering
KLE Tech University
BVBCET Campus, Hubballi –31

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 11th July 2015 at 10:30 am at the Senate Hall of the University.

The following members were present.

#	Name	Designation	Position
1.	Dr. Uma Mudenagudi	Head of School, SoECE	Chairperson
2.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
3.	Dr. Madhav Rao	Professor, Department of EC,IIIT Bangalore	Member
4.	Dr. Lokesh Boregouda	Head Research, Samsung India, Bangalore	Member
5.	Mr. Sanjeev Gondakar	Manager, RBEI, Bangalore	Member
6.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductors, Hubballi	Member
7.	Dr. R. M. Banakar	Professor, SoECE	Member
8.	Dr. Nalini Iyer	Professor, SoECE	Member
9.	Dr. Priyatamkumar	Professor, SoECE	Member
10.	Dr. Anil V. Nandi	Professor, SoECE	Member
11.	Dr. R. B. Shettar	Professor, SoECE	Member
12.	Dr. Saroja V S	Associate Professor, SoECE	Member
13.	Mr. Sanjay Eligar	Assistant Professor, SoECE	Member

Agenda

Sl No	Particulars	Page No.
1.1	To welcome the members of BoS	
1.2	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2015-19) batch b) Syllabus of I/II semester, Basic Electronics course for Mechanical and Electrical streams for (2015-19) batch c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch	
1.3	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2015-17) batch b) Syllabus I of I and II Semester (2015-17) batch c) Scheme of III and IV Semester (2015-17) batch d) Syllabus of III and IV Semester (2015-17) batch	
1.4	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme of I to IV Semester (2015-17) batch b) Syllabus I of I and II Semester (2015-17) batch c) Scheme of III and IV Semester (2015-17) batch d) Syllabus of III and IV Semester (2015-17) batch	
1.5	To approve the Vision, Mission, POs and PSOs of School of ECE	
1.6	Any other subject with the permission of the Chair	

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BoS 1.1	To welcome the members of BoS

Resolution 1.1: The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.

BoS 1.2	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2015-19) batch b) Syllabus of I/II semester, Basic Electronics course for Mechanical and Electrical streams for (2015-19) batch c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch
	Discussion: The verticals proposed for the undergraduate program B.E in Electronics & Communication were discussed. Based on the discussion, action points were listed. Members recommended industry specific elective courses to be offered, and also to explore the possibility of co-design and co-delivery with industry experts. ***Action Item No.1: Strengthen the verticals by identifying appropriate core courses for B.E.(ECE)*** ***Action Item No.2: Identify industry specific electives for the for B.E.(ECE)*** ***Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.***

Resolution 1.2: Resolved to approve the following Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication Engineering subject to implementation of action points listed above:

a) Scheme of I to VIII Semester (2015-19) batch.
b) Syllabus of I/II semester, Basic Electronics course for Mechanical and Electrical streams for (2015-19) batch.
c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch.

BoS 1.3	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2015-17) batch b) Syllabus of I and II Semester (2015-17) batch c) Scheme of III and IV Semester (2015-17) batch a) Syllabus I of III and IV Semester (2015-17) batch
	Discussion: The members proposed to identify industries in focus areas for the postgraduate program M.Tech in Digital Electronics. A suggestion to focus on internship & curriculum development in thrust areas. ***Action Item No.4: Identify industries in focus areas.*** ***Action Item No.5: Identify industries for Internships.***

Resolution 1.3: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics:

a) Scheme approval of I to IV Semester (2015-17)
b) Syllabus approval of I and II Semester (2015-17)
c) Scheme approval of III and IV Semester (2015-17)
d) Syllabus approval of III and IV Semester (2015-17)

BoS 1.4	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2015-17) b) Syllabus approval of I and II Semester (2015-17) c) Scheme approval of III and IV Semester (2015-17) d) Syllabus approval of III and IV Semester (2015-17)
	Discussion: The members proposed to identify industries in focus areas for the postgraduate program M.Tech in VLSI Design & Embedded Systems. A suggestion to focus on internship & curriculum development in thrust areas.

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	Action Item No.6: Identify industries in focus areas. ***Action Item No.7: Identify industries for Internships.***

Resolution 1.4: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:

a) **Scheme of I to IV Semester (2015-17)**
b) **Syllabus of I and II Semester (2015-17)**
c) **Scheme of III and IV Semester (2015-17)**
d) **Syllabus of III and IV Semester (2015-17)**

BoS 1.5	To approve the Vision, Mission, POs and PSOs of School of ECE
	The Vision, Mission, POs and PSOs of School of ECE, which were aligned with the University's Vision and Mission, were presented.

Resolution 1.5: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE:

BoS 1.6	Any other subject with the permission of the Chair
	Nil.

The Chairperson thanked all the members for the fantastic contributions

Dr. Uma Mudenagudi
Chairperson, BoS, SoECE

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KLE Technological University

Creating Value
Leveraging Knowledge

Action Taken Report

1st Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

11th July 2015

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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The following are the action items proposed during 1st Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 11th July 2015. The corresponding actions taken are also listed below.

Item No	Description	Action Taken
BoS 1.1	To welcome the members of BoS **Resolution 1.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 1.2	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2015-19) batch b) Syllabus of I/II semester, Basic Electronics coursefor Mechanical and Electrical streams for (2015-19) batch c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch **Discussion**: The verticals proposed for the undergraduate program B.E in Electronics & Communication were discussed. Based on the discussion, action points were listed. Members recommended industry specific elective courses to be offered, and also to explore the possibility of co-design and co-delivery with industry experts. ***Action Item No.1: Strengthen the verticals by identifying appropriate core courses for B.E.(ECE)*** ***Action Item No.2: Identify industry specific electives for B.E(ECE)*** ***Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.*** **Resolution 1.2: Resolved to approve the following Schemes and Syllabi of B.E in Electronics & Communication Engineering subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2015-19) batch** **b) Syllabus of I/II semester, Basic Electronics course for Mechanical and Electrical streams (2015-19) batch** **c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch.**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Strengthen the verticals by identifying appropriate core courses for B.E.(ECE)*** ***ATR**: Identified the core courses for the 3 verticals and will be presented during next BoS.* ***Action Item No.2: Identify industry specific electives for B.E.(ECE)*** ***ATR**: Identified the industry specific electives and and will be presented during next BoS.* ***Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.*** ***ATR**: Discussion with SMEs from RBEI, Samsung, Juniper, Cisco and other industries for co-design and delivery of the identified courses*
BoS 1.3	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2015-17) batch b) Syllabus of I and II Semester (2015-17) batch c) Scheme of III and IV Semester (2015-17) batch d) Syllabus of III and IV Semester (2015-17) batch **Discussion:** The members proposed to identify industries in focus areas for the postgraduate program M.Tech in Digital Electronics. A suggestion to focus on internship & curriculum development in thrust areas. ***Action Item No.4: Identify industries in focus areas.*** ***Action Item No.5: Identify industries for Internships.*** **Resolution 1.3: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2015-17) batch** **b) Syllabus of I and II Semester (2015-17) batch** **c) Scheme of III and IV Semester (2015-17) batch** **d) Syllabus of III and IV Semester (2015-17) batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.4: Identify industries in focus areas.*** ***ATR**: Discussion with SMEs from SiFive, RBEI and other industries.* ***Action Item No.5: Identify industries for Internships.*** ***ATR**: Identified about 10 industries, and discussions are at initial stage.*
BoS 1.4	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme of I to IV Semester (2015-17) batch	**The BoS members noted the progress of the School and recommended action items and timeline.**

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	b) Syllabus of I and II Semester (2015-17) batch c) Scheme of III and IV Semester (2015-17) batch e) Syllabus of III and IV Semester (2015-17) batch **Discussion** The members proposed to identify industries in focus areas for the postgraduate program M.Tech in VLSI Design & Embedded Systems. A suggestion to focus on internship & curriculum development in thrust areas. ***Action Item No.6: Identify industries in focus areas.*** ***Action Item No.7: Identify industries for Internships.*** **Resolution 1.4: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2015-17) batch** **b) Syllabus of I and II Semester (2015-17) batch** **c) Scheme of III and IV Semester (2015-17) batch** **d) Syllabus of III and IV Semester (2015-17) batch**	***Action Item No.6: Identify industries in focus areas.*** ***ATR: Discussion with SMEs from Sankalp Semiconductors and other VLSI companies.*** ***Action Item No.7: Identify industries for Internships.*** ***ATR: Identified about 10 industries, and discussions are at initial stage.***
BoS 1.5	Approval of change of Vision, Mission, POs and PSOs of School of ECE **Resolution 1.5: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE:**	SoECE staff aligned to Vision, Mission, POs and PSOs
BoS 1.6	Any other subject with the permission of the Chair Nil.	

Dr. Uma Mudenagudi
Chairperson, BoS, SoECE

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KLE Technological University

Creating Value
Leveraging Knowledge

Minutes

2nd Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

2nd April 2016

KLE Technological University

(Established under Karnataka Act No.22, 2013)

REGISTRAR
KLE Technological University
HUBBALLI-580 031

School of Electronics & Communication Engineering
KLE Tech University
BVBCET Campus, Hubballi –31

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 2nd April 2016 at 09:00 am at the Senate Hall of the University.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Uma Mudenagudi	Head of School, SoECE	Chairperson
2.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
3.	Dr. Chetan Parikh	Professor, Department of EC,IIIT Bangalore	Member
4.	Dr. Lokesh Boregouda	Head Research, Samsung India, Bangalore	Member
5.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductors, Hubballi	Member
6.	Dr. R. M. Banakar	Professor, SoECE	Member
7.	Dr. Nalini Iyer	Professor, SoECE	Member
8.	Dr. Priyatamkumar	Professor, SoECE	Member
9.	Dr. R. B. Shettar	Professor, SoECE	Member
10.	Mr. Sanjay Eligar	Assistant Professor, SoECE	Member

The following members have sought leave of absence:

Sl No	Name	Designation	Position
1.	Mr. Sanjeev Gondakar	Manager, RBEI, Bangalore	Member
2.	Mr. Vivek G Pawar	Founder & CEO, Sankalp Semiconductors, Hubballi	Member

Agenda

Sl No	Particulars	Page No.
2.1	To welcome the BoS Members and present department achievements & initiatives	
2.2	To read and confirm the minutes of 1st BoS meeting held on 11th July 2015	
2.3	To confirm the action taken report on the minutes of the previous meeting held on 11th July 2015	
2.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2016-20) batch b) Syllabus approval of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2016-20) batch c) Modification of Scheme of III to VIII Semester (2015-19) batch d) Syllabus approval of III / IV Semester (2015-19) batch e) Scheme and Syllabi for Minor degree in Electronics (2015-19) batch	
2.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2016-18) batch b) Syllabus approval of I/II Semester (2016-18) batch c) Modification of Scheme of III/IV Semester (2015-17) batch d) Syllabus approval of III/IV Semester (2015-17) batch	
2.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2016-18) batch b) Syllabus approval of I/II Semester (2016-18) batch c) Modification of Scheme of III/IV Semester (2015-17) d) Syllabus approval of III/IV Semester (2015-17) batch	
2.7	Question Paper review	
2.8	Vision, Mission, POs and PSOs of School of ECE	
2.9	Any other matter for discussion with the permission of the chair	

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BoS 2.1	**To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. *(Annexure 2.1)***

Resolution 2.1: The BoS members appreciated the initiatives of SoECE and lauded its achievements.

BoS 2.2 — **To read and confirm the minutes of 1st BoS meeting held on 11th July 2015**

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 11th July 2015 at 10:30 am at the Senate Hall of the University.

The following members were present.

#	Name	Designation	Position
1.	Dr. Uma Mudenagudi	Head of School, SoECE	Chairperson
2.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
3.	Dr. Madhav Rao	Professor, Department of EC,IIIT Bangalore	Member
4.	Dr. Lokesh Boregouda	Head Research, Samsung India, Bangalore	Member
5.	Mr. Sanjeev Gondakar	Manager, RBEI, Bangalore	Member
6.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductors, Hubballi	Member
7.	Dr. R. M. Banakar	Professor, SoECE	Member
8.	Dr. Nalini Iyer	Professor, SoECE	Member
9.	Dr. Priyatamkumar	Professor, SoECE	Member
10.	Dr. Anil V. Nandi	Professor, SoECE	Member
11.	Dr. R. B. Shettar	Professor, SoECE	Member
12.	Dr. Saroja V S	Associate Professor, SoECE	Member
13.	Mr. Sanjay Eligar	Assistant Professor, SoECE	Member

BoS 1.1

To welcome the members of BoS

Resolution 1.1: The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.

BoS 1.2

To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same.

a) Scheme of I to VIII Semester (2015-19) batch
b) Syllabus approval of I/II semester, Basic Electronics course for Mechanical and Electrical streams (2015-19) batch
c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch

Discussion : The verticals proposed for the undergraduate program B.E in Electronics & Communication were discussed. Based on the discussion, action points were listed. Members recommended industry specific elective courses to be offered, and also to explore the possibility of co-design and co-delivery with industry experts.

Action Item No.1: Strengthen the verticals by identifying appropriate core courses for B.E.(ECE)

Action Item No.2: Identify industry specific electives for the for B.E.(ECE)

Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.

Resolution 1.2: Resolved to approve the following Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication Engineering subject to implementation of action points listed above:

a) **Scheme of I to VIII Semester (2015-19) batch.**
b) **Syllabus of I/II semester, Basic Electronics course for Mechanical and Electrical streams for (2015-19) batch.**
c) **Scheme and syllabi for Minor degree in Electronics (2015-19) batch.**

BoS 1.3

To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same.

a) Scheme of I to IV Semester (2015-17) batch
b) Syllabus of I and II Semester (2015-17) batch
c) Scheme of III and IV Semester (2015-17) batch

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	d) Syllabus of III and IV Semester (2015-17) batch **Discussion:** The members proposed to identify industries in focus areas for the postgraduate program M.Tech in Digital Electronics. A suggestion to focus on internship & curriculum development in thrust areas. ***Action Item No.4: Identify industries in focus areas.*** ***Action Item No.5: Identify industries for Internships.*** **Resolution 1.3: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2015-17)** **b) Syllabus of I and II Semester (2015-17)** **c) Scheme of III and IV Semester (2015-17)** **d) Syllabus of III and IV Semester (2015-17)**
BoS 1.4	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme of I to IV Semester (2015-17) b) Syllabus of I and II Semester (2015-17) c) Scheme of III and IV Semester (2015-17) d) Syllabus of III and IV Semester (2015-17) **Discussion:** The members proposed to identify industries in focus areas for the postgraduate program M.Tech in VLSI Design & Embedded Systems. A suggestion to focus on internship & curriculum development in thrust areas. ***Action Item No.6: Identify industries in focus areas.*** ***Action Item No.7: Identify industries for Internships.*** **Resolution 1.4: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2015-17)** **b) Syllabus of I and II Semester (2015-17)** **c) Scheme of III and IV Semester (2015-17)** **d) Syllabus of III and IV Semester (2015-17)**
BoS 1.5	Approval of change of Vision, Mission, POs and PSOs of School of ECE **Resolution 1.5: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE as given in Annexure 1.5.**
BoS 1.6	Any other subject with the permission of the Chair Nil.

Resolution 2.2: Resolved to confirm the minutes of its 1st BoS meeting held on 11th July 2015

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BoS 2.3	To confirm the action taken report on the minutes of the previous meeting held on 11th July 2015	
Item No	Description	Action Taken
BoS 1.1	To welcome the members of BoS **Resolution 1.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 1.2	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2015-19) batch b) Syllabus of I/II semester, Basic Electronics course for Mechanical and Electrical streams for (2015-19) batch c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch **Discussion**: The verticals proposed for the undergraduate program B.E in Electronics & Communication were discussed. Based on the discussion, action points were listed. Members recommended industry specific elective courses to be offered, and also to explore the possibility of co-design and co-delivery with industry experts. ***Action Item No.1: Strengthen the verticals by identifying appropriate core courses for B.E.(ECE)*** ***Action Item No.2: Identify industry specific electives for B.E(ECE)*** ***Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.*** **Resolution 1.2: Resolved to approve the following Schemes and Syllabi of B.E in Electronics & Communication Engineering subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2015-19) batch** **b) Syllabus of I/II semester, Basic Electronics course for Mechanical and Electrical streams (2015-19) batch** **c) Scheme and syllabi for Minor degree in Electronics (2015-19) batch.**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Strengthen the verticals by identifying appropriate core courses for B.E.(ECE)*** ***ATR:*** *Identified the core courses for the 3 verticals and will be presented during next BoS.* ***Action Item No.2: Identify industry specific electives for B.E.(ECE)*** ***ATR:*** *Identified the industry specific electives and and will be presented during next BoS.* ***Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.*** ***ATR:*** *Discussion with SMEs from RBEI, Samsung, Juniper, Cisco and other industries for co-design and delivery of the identified courses*
BoS 1.3	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2015-17) batch b) Syllabus of I and II Semester (2015-17) batch c) Scheme of III and IV Semester (2015-17) batch d) Syllabus of III and IV Semester (2015-17) batch **Discussion:** The members proposed to identify industries in focus areas for the postgraduate program M.Tech in Digital Electronics. A suggestion to focus on internship & curriculum development in thrust areas. ***Action Item No.4: Identify industries in focus areas.*** ***Action Item No.5: Identify industries for Internships.*** **Resolution 1.3: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2015-17) batch** **b) Syllabus of I and II Semester (2015-17) batch** **c) Scheme of III and IV Semester (2015-17) batch** **d) Syllabus of III and IV Semester (2015-17) batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.4: Identify industries in focus areas.*** ***ATR:*** *Discussion with SMEs from SiFive, RBEI and other industries.* ***Action Item No.5: Identify industries for Internships.*** ***ATR:*** *Identified about 10 industries, and discussions are at initial stage.*

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BoS 1.4	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme of I to IV Semester (2015-17) batch b) Syllabus of I and II Semester (2015-17) batch c) Scheme of III and IV Semester (2015-17) batch e) Syllabus of III and IV Semester (2015-17) batch **Discussion** The members proposed to identify industries in focus areas for the postgraduate program M.Tech in VLSI Design & Embedded Systems. A suggestion to focus on internship & curriculum development in thrust areas. ***Action Item No.6: Identify industries in focus areas.*** ***Action Item No.7: Identify industries for Internships.*** **Resolution 1.4: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2015-17) batch** **b) Syllabus of I and II Semester (2015-17) batch** **c) Scheme of III and IV Semester (2015-17) batch** **d) Syllabus of III and IV Semester (2015-17) batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.6: Identify industries in focus areas.*** ***ATR:*** *Discussion with SMEs from Sankalp Semiconductors and other VLSI companies.* ***Action Item No.7: Identify industries for Internships.*** ***ATR:*** *Identified about 10 industries, and discussions are at initial stage.*
BoS 1.5	Approval of change of Vision, Mission, POs and PSOs of School of ECE **Resolution 1.5: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE:**	SoECE staff aligned to Vision, Mission, POs and PSOs
BoS 1.6	Any other subject with the permission of the Chair Nil.	

Resolution: 2.3 Resolved to confirm the action taken report on the minutes of its 1st BoS meeting held on 11th July 2015. The BoS members appreciated the new initiatives taken by SoECE

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BoS 2.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2016-20) b) Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2016-20) c) Modification of Scheme of III to VIII Semester (2015-19) d) Syllabus of III / IV Semester (2015-19)
	Discussion: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. The details of discussion are in ***Annexure 2.4***. ***Action Item No.1: Suggested for renaming of core courses*** *for B.E.(ECE)* 1) Electromagnetic Theory to Electromagnetic Fields and Waves 2) Embedded & IoT Lab to Embedded Lab (with focus on IoT) 3) Sensor Networks & SDN to Sensor Networks ***Action Item No.2: Flipped mode*** *of delivery for Circuit Analysis in III Sem* ***Action Item No.3: Integrated approach***: *Introduction to hands-on 8051, ARM Microcontroller and programming (Embedded System Domain/Vertical courses in III Sem and IV Sem)* ***Action Item No.4: Enhancing Programming Skill:*** *using online Coding platform* 1) Data Structure using C ***Action Item No.5: Enhancing reasoning ability and experimental investigations****: open ended Experiments* 1) Analog Electronics and Digital Circuits Lab.

Resolution 2.4: Resolved to approve the following Schemes and Syllabi of B.E in Electronics & Communication subject to implementation of action points listed above:

a) **Scheme of I to VIII Semester (2016-20) batch**
b) **Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2016-20) batch**
c) **Modification of Scheme of III to VIII Semester (2015-19) batch**
d) **Syllabus of III / IV Semester (2015-19) batch**

BoS 2.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2016-18) b) Syllabus approval of I/II Semester (2016-18) c) Modification of Scheme of III/IV Semester (2015-17) d) Syllabus approval of III/IV Semester (2015-17)
	Discussion: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen design concepts* 1) Principles and practices of Engineering Education 2) Fault Diagnosis and Testing for VLSI circuits 3) Real Time Embedded Systems Lab

Resolution 2.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:

a) **Scheme I of I to IV Semester (2016-18) batch**
b) **Syllabus of I/II Semester (2016-18) batch**
c) **Modification of Scheme of III/IV Semester (2015-17) batch**
d) **Syllabus of III/IV Semester (2015-17) batch**

BoS 2.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2016-18) b) Syllabus approval of I/II Semester (2016-18) c) Modification of Scheme of III/IV Semester (2015-17) d) Syllabus approval of III/IV Semester (2015-17)

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	Discussion: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. ***Action Item No.1: Suggested new core course*** *on pedagogy* 1) Principles and practices of Engineering Education ***Action Item No.2: Integrated approach****: Emphasis on parallelism and protocols* 1) Advanced Processor Architecture

Resolution 2.6: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:

a) **Scheme of I to IV Semester (2016-18) batch**
b) **Syllabus of I/II Semester (2016-18) batch**
c) **Modification of Scheme of III/IV Semester (2015-17) batch**
d) **Syllabus of III/IV Semester (2015-17)batch**

BoS 2.7	Question Paper review
	Discussion: The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.

Resolution 2.7: Resolved to approve the Question Paper Pattern

BoS 2.8	Vision, Mission, POs and PSOs of School of ECE
	Discussion: The Vision, Mission, POs and PSOs of School of ECE were presented.

Resolution 2.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE

BoS 2.9	Any other matter for discussion with the permission of the chair
	Nil

The Chairperson thanked all the members for the fantastic contributions

Dr. Uma Mudenagudi
Chairperson, BoS, SoECE

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Annexure 2.1

Discussion Item
Employers Feedback: • Students lack ability to apply basic mathematical concepts and lack the rigor of practice. • Enhance ability to identify and formulate problem in designing electronic system for real world applications. • Enhance basic programming skills, to apply and realize real world problems. • Students lack to engage in independent and lifelong learning. • Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding. **Teachers Feedback (Pre-BoS MoM):** • Conceptual understanding of circuits and problem solving practice is essential. • Focus on problem solving using programming skills and use of online platform. • In circuit analysis course i.e. basic concepts of RLC, V-I and devices is required. **Students Feedback:** • Suggested for introduction of basic controller and its programming. **Alumni Feedback:** • Suggested for content delivery by industry experts. • Recommended for inclusion of basic microcontroller under embedded system stream. • Students lack to understand the basic of RISC architecture and its programming. • Students ability to realize digital system design using concurrent programming is poor.

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Annexure 2.4

Discussion Item	Course
BE (ECE)	
1. **Flipped mode of teaching** is introduced to provide rigor of problem solving practice and strengthening the basic circuit concepts for the course **circuit analysis** which engages students learning beyond class hours with access to content and interactive problem –solving interface	Circuit Analysis-15EECC201 Revised- Delivery and Assessment
2. A course on 8051 microcontroller and programming is introduced to help the students to understand basic 8-bit controller architecture, its interfaces and programming for a given application.	Microcontroller architecture and programming-15EECF202 Added- New Course
3. To enhance problem solving and programming skills online coding platform hacker rank is introduced in addition to regular assessment methods and IDE tools.	Data Structures using C-15EECF201 Revised- Delivery and Assessment
4. Integrated theory and laboratory to facilitate more hands on with target platform which aids in timing and power analysis with area constraints for the given digital design	Digital system design using Verilog-15EECC208 Revised- Delivery and Assessment
5. Laboratory curriculum focusing on structured enquiry and open ended category of experiments to increase students reasoning ability and experimental investigations are enhanced	Analog Electronics and Digital electronics laboratory-15EECP202/15EECP201 Revised- Conduction and Assessment
M.Tech Digital Electronics	
1. To understand the basic principles of engineering education a new pedagogical course is introduced.	Principles and Practices of Engineering Education-15ECRC701
2. A laboratory course on RTES is introduced to help the students to understand basic architecture and programming for a given application.	Real Time Embedded Systems Lab - 15EDEP706 Added- New Lab Course
3. Integrated theory and laboratory to facilitate more hands on with target platform which aids fault diagnosis and characterization of digital circuits.	Fault Diagnosis and Testing for VLSI Circuits-15EDEC708 Revised- Delivery and Assessment
M.Tech VLSI Design and Embedded Systems	
1. To understand the basic principles of engineering education a new pedagogical course is introduced.	Principles and Practices of Engineering Education-15ECRC701
2. The architecture of modern controller and bus protocols for embedded systems is introduced and application of the compiler techniques to exploit the instruction level parallelism is focused.	Advanced Processor Architectures - 15EVEC704 Revised Course

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KLE Technological University

Creating Value
Leveraging Knowledge

Action Taken Report

2nd Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

2nd April 2016

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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The following are the action items proposed during 2nd Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 2nd April 2016. The corresponding actions taken are also listed below.

Item No	Description	Action Taken
BoS 2.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. ***(Annexure 2.1)*** **Resolution 1.1**: The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 2.2	To read and confirm the minutes of 1st BoS meeting held on 11th July 2015 **Resolution 1.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 2.3	To confirm the action taken report on the minutes of the previous meeting held on 11th July 2015 **Resolution 1.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 11th July 2015 and suggestions were implemented.**	Noted
BoS 2.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2016-20) batch b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2016-20) batch c) Modification of Scheme of III to VIII Semester (2015-19) batch d) Syllabus of III / IV Semester (2015-19) batch **Discussion**: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. The details of discussion are in ***Annexure 2.4.*** ***Action Item No.1: Suggested for renaming of core courses*** *for B.E.(ECE)* 1) Electromagnetic Theory to Electromagnetic Fields and Waves 2) Embedded & IoT Lab to Embedded Lab (with focus on IoT) *3)* Sensor Networks & SDN to Sensor Networks ***Action Item No.2: Flipped mode*** *of delivery for Circuit Analysis in III Sem* ***Action Item No.3: Integrated approach***: *Introduction to hands-on 8051, ARM Microcontroller and programming (Embedded System Domain/Vertical courses in III Sem and IV Sem)* ***Action Item No.4: Enhancing Programming Skill:*** *using online Coding platform* 1) Data Structure using C ***Action Item No.5: Enhancing reasoning ability and experimental investigations****: open ended Experiments* 1) Analog Electronics and Digital Circuits Lab. **Resolution 2.4: Resolved to approve the following Schemes and Syllabi of B.E in Electronics & Communication Engineering subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2016-20) batch** **b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2016-20) batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested for renaming of core courses*** *for B.E.(ECE)* ***ATR****: changes are made according to the suggestions and will present during next BoS.* ***Action Item No.2: Flipped mode*** *of delivery for Circuit Analysis in III Sem* ***ATR****: Flipped mode of teaching is introduced to provide rigor of problem solving practice and strengthening the basic circuit concepts for the course* ***Circuit Analysis****, which engages students learning beyond class hours with access to content, and interactive problem –solving interface and will present during next BoS.* ***Action Item No.3: Integrated approach :*** *Introduction to hands-on 8051, ARM Microcontroller and programming (Embedded System Domain/Vertical courses in III Sem and IV Sem)* ***ATR****: Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realiasing the same with programming in courses* ***8051 and ARM Controller*** ***Action Item No.4: Enhancing Programming Skill*** *: using online Coding platform* ***ATR:*** *To enhance problem solving and programming skills online coding platform hacker rank is introduced in addition to regular assessment methods and IDE tools in the course* ***Data Structures using C***

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	c) **Modification of Scheme of III to VIII Semester (2015-19) batch** d) **Syllabus of III / IV Semester (2015-19) batch**	***Action Item No.5: Enhancing reasoning ability and experimental investigations :*** *open ended Experiments* ***ATR** : Laboratory curriculum focusing on structured enquiry and open ended category of experiments to increase students reasoning ability and experimental investigations are enhanced and introduced in **AEC and DC labs*** *Changes are made according to the suggestions and will be presented during the next BoS.*
BoS 2.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2016-18) batch b) Syllabus of I/II Semester (2016-18) batch c) Modification of Scheme of III/IV Semester (2015-17) batch d) Syllabus of III/IV Semester (2015-17) batch **Discussion**: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. ***Action Item No.1: Suggested new core courses** to strengthen design concepts* 1) Principles and practices of Engineering Education 2) Fault Diagnosis and Testing for VLSI circuits 3) Real Time Embedded Systems Lab **Resolution 2.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2016-18) batch** **b) Syllabus of I/II Semester (2016-18) batch** **c) Modification of Scheme of III/IV Semester (2015-17) batch** **d) Syllabus of III/IV Semester (2015-17) batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses** to strengthen design concepts* ***ATR:*** *Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realiasing the same with programming in course **Real Time Embedded Systems Lab** and fault diagnosis and characterization of digital circuits in **Fault Diagnosis and Testing for VLSI circuits*** *A course on **Principles and practices of Engineering Education** is introduced to understand the basic principles of engineering education and pedagogy.* *Changes are made according to the suggestions and will be presented during the next BoS.*
BoS 2.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme of I to IV Semester (2016-18) batch b) Syllabus of I/II Semester (2016-18) batch c) Modification of Scheme of III/IV Semester (2015-17) batch d) Syllabus of III/IV Semester (2015-17) batch **Discussion**: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core course** on pedagogy* ***ATR:** A course on **Principles and practices of Engineering Education** is introduced to understand the basic principles of engineering education and pedagogy* ***Action Item No.2: Integrated approach:** Emphasis on parallelism and protocols*

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	***Action Item No.1: Suggested new core course** on pedagogy* 1) Principles and practices of Engineering Education ***Action Item No.2: Integrated approach**: Emphasis on parallelism and protocols* 1) Advanced Processor Architecture **Resolution 2.6: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2016-18) batch** **b) Syllabus of I/II Semester (2016-18) batch** **c) Modification of Scheme of III/IV Semester (2015-17) batch** **d) Syllabus of III/IV Semester (2015-17) batch**	***ATR**: Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realiasing the same with programming in course **Advanced Processor Architecture** emphasis on parallelism and protocols.* *Changes are made according to the suggestions and will be presented during the next BoS.*
BoS 2.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented. **Resolved to approve the Question Paper Pattern**	QP Pattern is incorporated in all the courses.
BoS 2.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 2.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**	SoECE staff aligned to Vision, Mission, POs and PSOs
BoS 2.9	Any other subject with the permission of the Chair Nil.	

Dr. Uma Mudenagudi
Chairperson, BoS, SoECE

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KLE Technological University

Creating Value
Leveraging Knowledge

Minutes

3rd Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

15th April 2017

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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School of Electronics & Communication Engineering
KLE Tech University
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The following are the minutes of theBoard of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 15th April 2017 at 09:00 am at the Senate Hall of the University.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. NaliniC.Iyer	Head of School, SoECE	Chairperson
2.	Dr. R M Bankar	Professor, SoECE	Member
3.	Ujwala Patil	Associate Professor, SoECE	Member
4.	Sanjay Eligar	Head Research, Samsung India, Bangalore	Member
5.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
6.	Dr. Chetan Parekh	Professor, Department of EC,IIIT Bangalore	Member
7.	Dr. LokeshBoregouda	Professor, SoECE	Member
8.	Mr. Vivek G Pawar	Founder & CEO, Sankalp Semiconductor	Member
9.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductor	Member
10.	Mrs. PadminiNavalgund	RBEI, Bangalore	Member
11.	Prabha. C. Nissimgoudar	Associate Professor, SoECE	Member
12.	Dr. Uma Mudengudi	Professor, SoECE	Member
13.	Dr. Pritamkumar	Professor, SoECE	Member
14.	Dr. R B Shettar	Professor, SoECE	Member
15.	Rohini Hongal	Associate Professor, SoECE	Member
16.	Dr. G.B. Marali	Professor and Head of Mathematics	Member
17.	BE UG 1. AKSHAY M PANCHAMUKHI 2. MAITHILI NAIK PG1 : DE MADHURI SUMALATHA MARRI PG2: PG VDES DEEPIKA Wali k PhD: HeeraWali		Student Member's

The following members have sought leave of absence:

Sl No	Name	Designation	Position
1.	Dr. R M Bankar	Professor, SoECE	Member

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Agenda

Sl No	Particulars	Page No.
3.1	To welcome the BoS Members and present department achievements & initiatives	
3.2	To read and confirm the minutes of 2nd BoS meeting held on 2nd April 2016	
3.3	To confirm the action taken report on the minutes of the previous meeting held on 2nd April 2016	
3.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2017-21) batch b) Syllabus approval of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2017-21) batch c) Scheme approval of III to VIII Semester (2016-20) batch d) Syllabus approval of III to VIII Semester (2016-20) batch e) Modification of Scheme of V to VIII Semester (2015-19) batch f) Syllabus approval of V and VI Semester (2015-19) batch g) Scheme approval: Scheme 2016-20 batch of Minor Program h) Syllabus approval: Scheme 2015-19 batch of Minor Program	
3.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2017-19) batch b) Syllabus approval of I/II Semester (2017-19) batch c) Modification of Scheme of III/IV Semester (2016-18) batch d) Syllabus approval of III/IV Semester (2016-18) batch	.
3.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2017-19) batch b) Syllabus approval of I/II Semester (2017-19) batch c) Modification of Scheme of III/IV Semester (2016-18) batch d) Syllabus approval of III/IV Semester (2016-18) batch	
3.7	Question Paper review	
3.8	Vision, Mission, POs and PSOs of School of ECE	
3.9	Any other matter for discussion with the permission of the chair	

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BoS 3.1	**To welcome the BoS Members and present department achievements & initiativesand discussed about the inputs from all stake holders. *(Annexure 3.1)***

Resolution 3.1: The BoS members appreciated the initiatives of SoECE and lauded its achievements.

BoS 3.2	**To read and confirm the minutes of 2st BoS meeting held on 2nd April 2016**

The following are the action items proposed during 2nd Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 2nd April 2016. The corresponding actions taken are also listed below.

The following members were present.

BoS 2.2	To read and confirm the minutes of 2ndBoS meeting held on 02nd April 2016		
Sl No	**Name**	**Designation**	**Position**
1.	Dr. Uma Mudenagudi	Head of School, SoECE	Chairperson
2.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
3.	Dr. Chetan Parikh	Professor, Department of EC,IIIT Bangalore	Member
4.	Dr. Lokesh Boregouda	Head Research, Samsung India, Bangalore	Member
5.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductors, Hubballi	Member
6.	Dr. R. M. Banakar	Professor, SoECE	Member
7.	Dr. Nalini Iyer	Professor, SoECE	Member
8.	Dr. Priyatamkumar	Professor, SoECE	Member
9.	Dr. R. B. Shettar	Professor, SoECE	Member
10.	Mr. Sanjay Eligar	Assistant Professor, SoECE	Member

Item No	Description
BoS 2.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. ***(Annexure 2.1)*** **Resolution 2.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.
BoS 2.2	To read and confirm the minutes of 2nd BoS meeting held on 2nd April 2016 **Resolution 2.2: Minutes of the last meeting were read and confirmed by BoS.**
BoS 2.3	To confirm the action taken report on the minutes of the previous meeting held on 2nd April 2016 **Resolution 2.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 2nd April 2016 and suggestions were implemented.**
BoS 2.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2016-20) batch b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2016-20) batch c) Modification of Scheme of III to VIII Semester (2015-19) batch d) Syllabus of III / IV Semester (2015-19) batch
	Discussion: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. The details of discussion are in ***Annexure 2.4.*** ***Action Item No.1: Suggested for renaming of core courses*** *for B.E.(ECE)* 1) Electromagnetic Theory to Electromagnetic Fields and Waves 2) Embedded & IoT Lab to Embedded Lab (with focus on IoT) *3)* Sensor Networks & SDN to Sensor Networks ***Action Item No.2: Flipped mode*** *of delivery for Circuit Analysis in III Sem* ***Action Item No.3: Integrated approach***: *Introduction to hands-on 8051, ARM Microcontroller and programming (Embedded System Domain/Vertical courses in III Sem and IV Sem)*

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	Action Item No.4: Enhancing Programming Skill: *using online Coding platform* 1) Data Structure using C ***Action Item No.5: Enhancing reasoning ability and experimental investigations****: open ended Experiments* 1) Analog Electronics and Digital Circuits Lab.

Resolution 2.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication subject to implementation of action points listed above:

a) **Scheme approval of I to VIII Semester (2016-20)**
b) **Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2016-20)**
c) **Modification of Scheme of III to VIII Semester (2015-19)**
d) **Syllabus approval of III / IV Semester (2015-19)**

BoS 2.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2016-18) b) Syllabus approval of I/II Semester (2016-18) c) Modification of Scheme of III/IV Semester (2015-17) d) Syllabus approval of III/IV Semester (2015-17)
	Discussion: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen design concepts* 1) Principles and practices of Engineering Education 2) Fault Diagnosis and Testing for VLSI circuits 3) Real Time Embedded Systems Lab

Resolution 2.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:

a) **Scheme of I to IV Semester (2016-18) batch**
b) **Syllabus of I/II Semester (2016-18) batch**
c) **Modification of Scheme of III/IV Semester (2015-17) batch**
d) **Syllabus of III/IV Semester (2015-17) batch**

BoS 2.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme of I to IV Semester (2016-18) batch b) Syllabus of I/II Semester (2016-18) batch c) Modification of Scheme of III/IV Semester (2015-17) batch d) Syllabus of III/IV Semester (2015-17) batch
	Discussion: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. ***Action Item No.1: Suggested new core course*** *on pedagogy* 1) Principles and practices of Engineering Education ***Action Item No.2: Integrated approach****: Emphasis on parallelism and protocols* 1) Advanced Processor Architecture

Resolution 2.6: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:

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	a) **Scheme of I to IV Semester (2016-18) batch** b) **Syllabus of I/II Semester (2016-18) batch** c) **Modification of Scheme of III/IV Semester (2015-17) batch** d) **Syllabus of III/IV Semester (2015-17) batch**

BoS 2.7	Question Paper review
	Discussion: The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.

Resolution 2.7: Resolved to approve the Question Paper Pattern

BoS 2.8	Vision, Mission, POs and PSOs of School of ECE
	Discussion: The Vision, Mission, POs and PSOs of School of ECEwere presented.

Resolution 2.8: Resolved to approve theVision, Mission, POs and PSOs of School of ECE

BoS 2.9	Any other matter for discussion with the permission of the chair
	Nil

Resolution 3.2: Resolved to confirm the minutes of its 2nd BoS meeting held on 2nd April 2016

BoS 3.3 **To confirm the action taken report on the minutes of the previous meeting held on 02nd April 2016**

BoS 3.3	**To confirm the action taken report on the minutes of the previous meeting held on 2nd April 2016**	
Item No	**Description**	**Action Taken**
BoS 2.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. ***(Annexure 2.1)*** **Resolution 2.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 2.2	To read and confirm the minutes of 2nd BoS meeting held on 2nd April 2016 **Resolution 2.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 2.3	To confirm the action taken report on the minutes of the previous meeting held on 2nd April 2016 **Resolution 2.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 2nd April 2016 and suggestions were implemented.**	Noted
BoS 2.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2016-20) batch b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2016-20) batch c) Modification of Scheme of III to VIII Semester (2015-19) batch d) Syllabus of III / IV Semester (2015-19) batch **Discussion**: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested for renaming of core courses*** *for B.E.(ECE)* ***ATR****: changes are made according to the suggestions and will present during next BoS.* ***Action Item No.2: Flipped mode*** *of delivery for Circuit Analysis in III Sem*

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		2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. The details of discussion are in ***Annexure 2.4.*** ***Action Item No.1: Suggested for renaming of core courses*** *for B.E.(ECE)* 1) Electromagnetic Theory to Electromagnetic Fields and Waves 2) Embedded & IoT Lab to Embedded Lab (with focus on IoT) 3) Sensor Networks & SDN to Sensor Networks ***Action Item No.2: Flipped mode*** *of delivery for Circuit Analysis in III Sem* ***Action Item No.3: Integrated approach****: Introduction to hands-on 8051, ARM Microcontroller and programming (Embedded System Domain/Vertical courses in III Sem and IV Sem)* ***Action Item No.4: Enhancing Programming Skill:*** *using online Coding platform* 1) Data Structure using C ***Action Item No.5: Enhancing reasoning ability and experimental investigations****: open ended Experiments* 1) Analog Electronics and Digital Circuits Lab. **Resolution 2.4: Resolved to approve the following Schemes and Syllabi of B.E in Electronics & Communication Engineering subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2016-20) batch** **b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2016-20) batch** **c) Modification of Scheme of III to VIII Semester (2015-19) batch** **d) Syllabus of III / IV Semester (2015-19) batch**	***ATR:*** *Flipped mode of teaching is introduced to provide rigor of problem solving practice and strengthening the basic circuit concepts for the course* ***Circuit Analysis****, which engages students learning beyond class hours with access to content, and interactive problem –solving interface and will present during next BoS.* ***Action Item No.3: Integrated approach :*** *Introduction to hands-on 8051, ARM Microcontroller and programming (Embedded System Domain/Vertical courses in III Sem and IV Sem)* ***ATR:*** *Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realiasing the same with programming in courses* ***8051 and ARM Controller*** ***Action Item No.4: Enhancing Programming Skill :*** *using online Coding platform* ***ATR:*** *To enhance problem solving and programming skills online coding platform hacker rank is introduced in addition to regular assessment methods and IDE tools in the course* ***Data Structures using C*** ***Action Item No.5: Enhancing reasoning ability and experimental investigations:*** *open ended Experiments* ***ATR*** *: Laboratory curriculum focusing on structured enquiry and open ended category of experiments to increase students reasoning ability and experimental investigations are enhanced and introduced in* ***AEC and DC labs*** *Changes are made according to the suggestions and will be presented during the next BoS.*
	BoS 2.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2016-18) batch	**The BoS members noted the progress of the School and recommended action items and timeline.**

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		b) Syllabus of I/II Semester (2016-18) batch c) Modification of Scheme of III/IV Semester (2015-17) batch d) Syllabus of III/IV Semester (2015-17) batch **Discussion**: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen design concepts* 1) Principles and practices of Engineering Education 2) Fault Diagnosis and Testing for VLSI circuits 3) Real Time Embedded Systems Lab **Resolution 2.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2016-18) batch** **b) Syllabus of I/II Semester (2016-18) batch** **c) Modification of Scheme of III/IV Semester (2015-17) batch** **d) Syllabus of III/IV Semester (2015-17) batch**	***Action Item No.1: Suggested new core courses*** *to strengthen design concepts* ***ATR:*** *Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realiasing the same with programming in course* ***Real Time Embedded Systems Lab*** *and fault diagnosis and characterization of digital circuits in* ***Fault Diagnosis and Testing for VLSI circuits*** *A course on* ***Principles and practices of Engineering Education*** *is introduced to understand the basic principles of engineering education and pedagogy.* *Changes are made according to the suggestions and will be presented during the next BoS.*
	BoS 2.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme of I to IV Semester (2016-18) batch b) Syllabus of I/II Semester (2016-18) batch c) Modification of Scheme of III/IV Semester (2015-17) batch d) Syllabus of III/IV Semester (2015-17) batch **Discussion**: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02nd April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. ***Action Item No.1: Suggested new core course*** *on pedagogy* 1) Principles and practices of Engineering Education ***Action Item No.2: Integrated approach****: Emphasis on parallelism and protocols* 1) Advanced Processor Architecture **Resolution 2.6: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2016-18) batch** **b) Syllabus of I/II Semester (2016-18) batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core course*** *on pedagogy* ***ATR:*** *A course on* ***Principles and practices of Engineering Education*** *is introduced to understand the basic principles of engineering education and pedagogy* ***Action Item No.2: Integrated approach****: Emphasis on parallelism and protocols* ***ATR:*** *Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realiasing the same with programming in course* ***Advanced Processor Architecture*** *emphasis on parallelism and protocols.* *Changes are made according to the suggestions and will be presented during the next BoS.*

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		c) Modification of Scheme of III/IV Semester (2015-17) batch **d) Syllabus of III/IV Semester (2015-17) batch**	
	BoS 2.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented. **Resolved to approve the Question Paper Pattern**	QP Pattern is incorporated in all the courses.
	BoS 2.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 2.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**	SoECE staff aligned to Vision, Mission, POs and PSOs
	BoS 2.9	Any other subject with the permission of the Chair Nil. **Resolution 2.10: Resolved to approve the no other subject has been discussed**	
	Resolution: 3.3 Resolved to confirm the action taken report on the minutes of its 2nd BoS meeting held on 2nd April 2016. The BoS members appreciated the new initiatives taken by SoECE.		

BoS 3.4

To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same.

a) Scheme approval of I to VIII Semester (2017-21) batch
b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2017-21) batch
c) Scheme approval of III to VIII Semester (2016-20) batch
d) Syllabus approval of III to VIII Semester (2016-20) batch
e) Modification of Scheme of V to VIII Semester (2015-19) batch
f) Syllabus approval of V and VI Semester (2015-19) batch

Discussion: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting.

The details of discussion are in ***Annexure 3.4.***

Action Item No.1: Action Item No.1: Suggested new core courses *focusing on project based learning*

1) Machine learning
2) Mini Project
3) Minor project
4) Engineering Design
5) Product Realization

Action Item No.2: Model based design approach for rapid prototyping

1) Automotive electronics laboratory

Action Item No.3: Integrated Approach: *focus on hands on and code optimization*

1) Operating system and Embedded system

Action Item No.4*: Enhancing reasoning ability and investigation and interpretation: Open ended experiments*

1) Communication and Signal processing lab
2) Computer communication network lab

Action Item No.5*: Flipped mode of delivery to strengthened system design concepts*

1) Linear Integrated circuits

Action Item No.6*: Suggested new elective courses with Industry Collaboration for design and delivery*

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	1) Advanced Digital Logic 2) Advanced Digital Logic Verification 3) Analog Circuit Design 4) Internet of Things **Resolution 3.4: Resolved to approve the following Schemes and Syllabi of the B.E in Electronics & Communication subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2017-21) batch.** **b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2017-21) batch** **c) Scheme of III to VIII Semester (2016-20) batch.** **d) Syllabus of III to VIII Semester (2016-20) batch.** **e) Modification of Scheme of V to VIII Semester (2015-19) batch** **f) Syllabus of V and VI Semester (2015-19) batch.** **g) Scheme of Minor program of 2016-20 batch.** **h) Scheme of Minor program of 2015-19 batch.**
BoS 3.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1) Data Structures using C 2) Analog and Digital Circuits 3) Principles of Embedded systems 4) Fundamentals of signal processing 5) RISC Architectures 6) Machine learning 7) Electronics System Design 8) Embedded software design 9) Automotive communication 10) Automotive Electronics 11) Multimedia Signal processing ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1) Data Communication 2) Image and video processing 3) Digital Control System 4) Multi sensor data fusion 5) Internet of Things (IoT) 6) AUTOSAR 7) Multirate signal processing **Resolution 3.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**

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BoS 3.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1) Data Structures using C 2) Analog and Digital Circuits 3) Principals of Embedded systems 4) RISC Architectures 5) Electronics System Design 6) Real Time Embedded Systems 7) Advanced Digital Logic Design(ADLD) 8) VLSI Testing and IC Characterizing 9) Embedded software design 10) Automotive communication 11) Automotive Electronics 12) Advanced Digital Logic Verification(ADLV) ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1) Data Communication 2) Image and video processing 3) Digital Control Systems 4) Standard cell design and Layout 5) Low power VLSI Circuits 6) Analog and Mixed Mode VLSI Circuits 7) Internet of Things 8) AUTOSAR 9) ASIC Design 10) MEMS **Resolution 3.6: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in in VLSI Design and Embedded Systems subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**
BoS 3.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping presented. **Resolution 3.7: Resolved to approve the Question Paper Pattern**
BoS 3.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 3.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**
BoS 3.9	Any other subject with the permission of the Chair Nil.

The Chairperson thanked all the members for the fantastic contributions

Nalini C Iyer
Chairperson, BoS, SoECE

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Annexure 3.1

Discussion Item
Employers Feedback: • Enhance ability to identify and formulate problem in designing electronic system for real world applications. • Enhance basic programming skills, to apply and realize real world problems. • Students need to improve their ability to conduct investigations of technical issues with their level of knowledge and understanding. • Students lack in Industry standard coding styles and algorithmic analysis. • Understanding of professional engineering regulations, legislation and standards. • Ability to apply the Code of Ethics and responsibilities. • Ability for effective communication, problem solving, conflict resolution and leadership skills. • Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded/Communication systems. **Teachers Feedback (Pre-BoS MoM):** • Conceptual understanding of circuits, system design and problem solving practice. • Focus on problem solving using programming skills and use of online platform. • Combinational logical reduction techniques with more number of variables in digital circuit is time consuming and procedure based. • Focus on embedded programing with and without optimization • Collaborate with industry to get exposure to complete chip design flow, tools, courses etc. • Understanding of Data converters is required for design of electronic system in real time nonlinear applications. **Students Feedback:** • Need more exposure to current trends and technologies. • Hands on with Integrated Development Environment (IDEs) **Alumni Feedback:** • Recommended for co-delivery by industry experts. • Industry specific skills for employability • Recommended to focus on code optimization techniques in C/ Embedded C Programming/Data Structure Knowledge and projects. • Suggested to have projects reviews with industry experts. • Recommended to include elective courses in VLSI design domain to cover a complete chip design flow from netlist to GDSII. • Connect with industry mentors for Chip design program. • Recommended for Industry specific courses with collaboration and Co-teaching. • Inclusion of Rapid prototyping using industry standard model based design (MBD) Approach for automotive industry

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Annexure 3.4

Discussion Item	Course
BE (ECE)	
1. Introduction of machine learning course with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems	Machine learning-17EECC307 Added-New Course
2. Mini project focusing on code optimization using Embedded programming on an ARM based target hardware is introduced.	Mini Project-17EECW301 Added-New Course
3. Theme based minor project in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced	Minor Project-17EECW302 Added-New Course
4. Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems such as Speed control, PID control is introduced in automotive electronics laboratory	Automotive Laboratory-17EECP302 Revised- Content
5. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts(Embedded operating) and realiasing the same with programming focusing on code optimization.	Operating systems and embedded system design-17EECC304 Revised- Content
6. Design of open ended Experiments using software defined radio (SDR) for design and testing of communication protocols with performance analysis	Communication and signal processing laboratory-17EECP301 Revised- Content
7. Socket programming skills for point to point communication, point to multi point communication and open ended experiments for application of network devices such as switches and routers in collaboration with Juniper networks is introduced.	Computer communication network laboratory-17EECP303 Revised- Delivery and Assessment
8. Network of physical objects that are embedded with sensors, software, and other communication protocols for connecting and exchanging data with other devices and systems over the internet is introduced in the course with experiential learning.	Internet of Things-17EECE307 Added-New Course
9. Flipped mode of teaching is extended to strengthen electronic system design concepts for the course linear integrated circuits which engages students learning beyond class hours with access to content and interactive problem –solving interface with design experience	Linear integrated Circuits-17EECC205 Revised- Delivery and Assessment
10. The course contents have been designed keeping in view the emerging trends in needs for skilled manpower. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies.	Advanced Digital Logic Design-17EECE302 Added-New Course
11. The course is intended to impart training in verifying using system Verilog incollabration with industry to develop skills required to become a verification engineers. Emphasis of the teaching curriculum is on design & Verification methodologies and on its practical applications. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies, which is high in demand in VLSI & Embedded Systems industries.	Advanced Digital Logic Verification-18EECE418 Added-New Course
12. A course in the domain of analog VLSI in collaboration with industry to enhance teaching learning electronic circuit design and analysis. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates with emphasis on hands-on using industry standard tools	Analog Circuit design-17EECE301 Added-New Course

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M.Tech Digital Electronics	
1. Exclusive laboratory experience is introduced for design of Electronic Circuits.	Electronic System Design-17EDEC707, Added-New Course
2. Introduction of Data Structures using C for the enhancement of basic programming skills.	Data Structures using C -17EDEC701 Added-New Course
3. Introduction of machine learning course with Project-based learning.	Machine Learning-17EDEC705 Added-New Course
4. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.	Fundamentals of Signal Processing-17EDEC704, Added-New Course
5. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.	Principles of Embedded Systems-17EDEC703, Added- New Course
6. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.	Analog and Digital Circuits-17EDEC702 Added- New Course
7. Introduction of a new course focusing on how should new HLL programs be compiled and executed efficiently on a processor architecture.	RISC Architectures-17EDEC706 Added- New Course
8. Introduction of Automotive courses based on the suggestion by industry.	Automotive Electronics-17EDEC708, Added -New course
9. Introduction of Automotive courses based on the suggestion by industry.	Automotive Communication-17EDEC802, Added -New course
10. Introduction of Automotive courses based on the suggestion by industry.	AUTOSAR-17EDEE802 Added -New course
11. Introduction of elective courses for getting in-lined with the industry needs.	Multi Sensor Data Fusion-17EDEE703, Added -New course
12. Introduction of elective courses for getting in-lined with the industry needs.	Digital Control Systems-17EDEE702, Added -New course
13. Introduction of elective courses for getting in-lined with the industry needs.	Image and Video Processing-17EDEE701, Added -New course
14. Introduction of elective courses for getting in-lined with the industry needs.	Internet of Things-17EDEE801, Added -New course
15. Introduction of elective courses for getting in-lined with the industry needs.	Multirate Signal Processing-17EDEE803, Added -New course

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M.Tech VLSI Design and Embedded Systems	
1. Exclusive laboratory experience is introduced for design of Digital Circuits.	Electronic System Design-17EVEC707, Added-New Course
2. Introduction of Data Structures using C for the enhancement of basic programming skills.	Data Structures using C - 17EVEC701 Added-New Course
3. New process technology trends for integrated circuits is introduced.	IC Fabrication Technology-17EVEC706 Revised
4. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.	Principles of Embedded Systems-17EVEC703, Added- New Course
5. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and practices.	Analog and Digital.Circuits-17EVEC702 Added- New Course
6. Introduction of a new course focusing on how should new HLL programs be compiled and executed efficiently on a processor architecture.	RISC Architectures-17EVEC705 Added- New Course
7. A course is introduced to visualize and analyze basic model of RTES and understand its characteristics, safety and reliability aspects to achieve highly reliable software.	Real Time Embedded System-17EVEC709
8. The course contents have been designed keeping in view the emerging trends in needs for skilled manpower. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies.	Advanced Digital Logic Design-17EVEC710 Added-New Course
9. The course is intended to impart training using system Verilog in collaboration with industry to develop skills required to become testing and verification engineers. Emphasis of the teaching curriculum is on design & verification methodologies and on its practical applications. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. The curriculum has been designed in consultation with industry and academic experts to map the skill sets and design methodologies, which is high in demand in VLSI & Embedded Systems industries.	Advanced Digital Logic Verification-17EVEC802, Added-New Course
10. The course is intended to impart training in system Verilog in collaboration with industry to develop skills required to become testing and verification engineers. Emphasis of the teaching curriculum is on testing and characterization methodologies which is high in demand in VLSI & Embedded Systems industries.	Testing and IC characterization-17EVEC711 Added-New Course
11. Introduction of Automotive courses based on the suggestion by industry.	Automotive Electronics-17EVEC708, Added -New course
12. Introduction of Automotive courses based on the suggestion by industry.	AUTOSAR-17EVEE802 Added -New course
13. Introduction of elective courses for getting in-lined with the industry needs.	Standard Cell Design and Layout-17EVEE703 Added-New Course
14. Introduction of elective courses for getting in-lined with the industry needs.	Digital Control Systems-17EVEE702 Added-New Course

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15. Introduction of elective courses for getting in-lined with the industry needs.	Image and Video Processing-17EVEE701 Added-New Course
16. Introduction of elective courses for getting in-lined with the industry needs.	Internet of Things-17EVEE801 Added-New Course
17. Introduction of elective courses for getting in-lined with the industry needs.	Low Power VLSI Circuits-17EVEE704 Added-New Course
18. Introduction of elective courses for getting in-lined with the industry needs.	Analog and Mixed Mode VLSI Cicuits-17EVEE705 Added-New Course
19. Introduction of elective courses for getting in-lined with the industry needs.	ASIC Design-17EVEE803, MEMS-17EVEE804 Added-New Course

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KLE Technological University

Creating Value
Leveraging Knowledge

Action Taken Report

3rd Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

15th April 2017

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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The following are the action items proposed during 3rd Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 15thApril 2017. The corresponding actions taken are also listed below.

Item No	Description	Action Taken
BoS 3.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. ***(Annexure 2.1)*** **Resolution 2.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 3.2	To read and confirm the minutes of 2nd BoS meeting held on 2nd April 2016 **Resolution 2.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 3.3	To confirm the action taken report on the minutes of the previous meeting held on 2nd April 2016 **Resolution 2.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 2nd April 2016 and suggestions were implemented.**	Noted
BoS 3.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2017-21) batch b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2017-21) batch c) Scheme approval of III to VIII Semester (2016-20) batch d) Syllabus approval of III to VIII Semester (2016-20) batch e) Modification of Scheme of V to VIII Semester (2015-19) batch f) Syllabus approval of V and VI Semester (2015-19) batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 3.4.*** ***Action Item No.1: Action Item No.1: Suggested new core courses*** *focusing on project based learning* 1) Machine learning 2) Mini Project 3) Minor project 4) Engineering Design 5) Product Realization ***Action Item No.2: Model based design approach for rapid prototyping*** 1) Automotive electronics laboratory ***Action Item No.3: Integrated Approach:*** *focus on hands on and code optimization* 1) Operating system and Embedded system ***Action Item No.4: Enhancing reasoning ability and investigation and interpretation****: Open ended experiments* 1) Communication and Signal processing lab	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *focusing on project based learning* ***ATR:*** *Introduction of* ***Machine learning*** *course with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems in collaboration with Samsung R&D, Bangalore.* ***Mini Project*** *focusing on embedded programming and optimization* ***Minor project*** *theme based in the domain of VLSI, Communication and Embedded systems.* ***Engineering Design and Product Realization****: Design process from concept to solution and Building prototypes.* *Changes are made according to the suggestions and will be presented during the next BoS.* ***Action Item No.2: Model based design approach for rapid prototyping.*** ***ATR:*** *Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems is introduced in* ***Automotive electronics laboratory*** *in collaboration with Bosch, Bangalore.* ***Action Item No.3: Integrated Approach:*** *focus on hands on and code* optimization ***ATR:*** *Integrated theory and lab approach is adapted to bridge the gap between understanding theoretical and realization the same with programming and also*

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	2) Computer communication network lab ***Action Item No.5**: **Flipped mode** of delivery to strengthened system design concepts* 1) Linear Integrated circuits ***Action Item No.6**: **Suggested new elective courses** with Industry Collaboration for design and delivery* 1) Advanced Digital Logic 2) Advanced Digital Logic Verification 3) Analog Circuit Design 4) Internet of Things **Resolution 3.4: Resolved to approve the following Schemes and Syllabi of the B.E in Electronics & Communication subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2017-21) batch.** **b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2017-21) batch** **c) Scheme of III to VIII Semester (2016-20) batch.** **d) Syllabus of III to VIII Semester (2016-20) batch.** **e) Modification of Scheme of V to VIII Semester (2015-19) batch** **f) Syllabus of V and VI Semester (2015-19) batch.** **g) Scheme of Minor program of 2016-20 batch.** **h) Scheme of Minor program of 2015-19 batch.**	*coding style and optimization in the course* **Operating system and embedded system** ***Action Item No.4: Enhancing reasoning ability and investigation and interpretation:** Open ended experiments* ***ATR:*** *Laboratory curriculum focusing on structured and open ended category of experiments to increase students reasoning ability and experimental investigations enhanced.* *Socket programming skills for point to point communication, point to multi point communication and open ended experiments for application of network devices such as switches and routers in collaboration with Juniper Networks, Bangalore is introduced in **Computer Communication Network Lab.*** *Design and testing of communication protocols with performance analysis using software defined radio (SDR) is introduced in **Communication and signal processing lab.*** ***Action Item No.5**: **Flipped mode** of delivery to strengthened system design concepts.* ***ATR:*** *Flipped mode of teaching is introduced is introduced to strengthened design concepts for **Linear Integrated Circuits** course which engages students learning beyond class hours with interactive problem solving interface.* ***Action Item No.6: Suggested new elective courses** with Industry Collaboration for design and delivery* ***ATR:*** *Elective courses (4) are introduced in in verticals (identified by SoECE) VLSI, Embedded and Communication Systems in collaboration with Industry in respective domain.* *Specialized Courses in VLSI domain, one of the vertical of SoECE, introduced are **Advanced Digital Logic design***

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		and Advanced Digital Logic Verification *in collaboration with SEER academy and IESA, Bangalore whereas* ***Analog Circuit design*** *in collaboration with Sankalp semiconductors Pvt. Ltd, hubli with focus on project based learning.* *Course on* ***Internet of Things (IoT)*** *is introduced in interaction with Bosch, Bangalore.* *Changes are made according to the suggestions and will be presented during the next BoS.*
BoS 3.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1) Data Structures using C 2) Analog and Digital Circuits 3) Principles of Embedded systems 4) Fundamentals of signal processing 5) RISC Architectures 6) Machine learning 7) Electronics System Design 8) Embedded software design 9) Automotive communication 10) Automotive Electronics 11) Multimedia Signal processing ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1) Data Communication 2) Image and video processing 3) Digital Control System 4) Multi sensor data fusion 5) Internet of Things (IoT) 6) AUTOSAR 7) Multirate signal processing **Resolution 3.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *Fundamental concepts of analog and digital electronics with application perspective is introduced in the courses* ***Analog and Digital Circuits and Electronic System Design.*** *Integrated theory and lab approach is adopted to bridge the gap between understanding theoretical concepts and realization of the same with programming and also coding style and optimization in basic courses* ***Data Structures using C, Principles of Embedded systems, Fundamentals of signal processing, RISC Architectures, Embedded software design, and Multimedia Signal processing.*** *Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems is introduced in courses* ***Automotive electronics and Automotive communication*** *in collaboration with Bosch.* *Introduction of* ***Machine Learning*** *course with Project-based learning* *Changes are made according to the suggestions and will be presented during the next BoS.*

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	Electronics subjected to implementation of action points listed above. **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**	***Action Item No.2: Suggested new electives courses*** ***ATR:*** *Elective courses (7) focusing on embedded systems and Information processing are introduced* *Specialized Courses introduced under Information processing domain are* ***Data Communication, Image and Video processing, Multirate signal processing and*** *under Embedded domain are* ***IoT, Multisensor data fusion and Digital Control system*** *with focus on hands-on.* *A standardized interface for software components in the application layer for building applications to support the vehicle functions is introduced in* ***AUTOSAR*** *in collaboration with Bosch, Bangalore* *Changes are made according to the suggestions and will be presented during the next BoS.*
BoS 3.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1) Data Structures using C 2) Analog and Digital Circuits 3) Principals of Embedded systems 4) RISC Architectures 5) Electronics System Design 6) Real Time Embedded Systems 7) Advanced Digital Logic Design(ADLD) 8) VLSI Testing and IC Characterizing 9) Embedded software design 10) Automotive communication 11) Automotive Electronics 12) Advanced Digital Logic Verification(ADLV) ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective*	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *Fundamental concepts of analog and digital electronics with application perspective is introduced in the courses* ***Analog and Digital Circuits, Real Time Embedded Systems and Electronic System Design.*** *Integrated theory and lab approach is adapted to bridge the gap between understanding theoretical concepts and realization of the same with programming and also coding style and optimization in basic courses* ***Principles of Embedded systems, Fundamentals of signal processing, RISC Architectures, Embedded software design.*** *Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems is introduced in courses* ***Automotive electronics and Automotive***

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	1) Data Communication 2) Image and video processing 3) Digital Control Systems 4) Standard cell design and Layout 5) Low power VLSI Circuits 6) Analog and Mixed Mode VLSI Circuits 7) Internet of Things 8) AUTOSAR 9) ASIC Design 10) MEMS **Resolution 3.6: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in in VLSI Design and Embedded Systems subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**	***Communication** in collaboration with Bosch.* *Advanced digital design concepts, their verification and testing is introduced in **ADLD, ADLV and VLSI Testing and IC Characterization courses** respectively with focus on hands-on.* *Changes are made according to the suggestions and will be presented during the next BoS.* ***Action Item No.2: Suggested new electives courses*** ***ATR:*** *Elective courses (10) focusing on embedded systems and VLSI design are introduced.* *Specialized Courses introduced under Embedded Systems domain are **Data Communication, Image and Video processing, Digital Control system , IoT** and under VLSI domain **are ASIC Design, MEMS, Standard Cell design and Layout, Low power VLSI Circuits and Analog and Mixed mode VLSI** with focus on hands-on.* *A standardized interface for software components in the application layer for building applications to support the vehicle functions is introduced in **AUTOSAR** in collaboration with Bosch, Bangalore.* *Changes are made according to the suggestions and will be presented during the next BoS.*
BoS 3.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping presented. **Resolved to approve the Question Paper Pattern**	QP Pattern is incorporated in all the courses.
BoS 3.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 2.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**	SoECE staff aligned to Vision, Mission, POs and PSOs .
BoS 3.9	Any other subject with the permission of the Chair Nil.	

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Dr.Nalini C Iyer
Chairperson, BoS, SoECE

KLE Technological University

Creating Value
Leveraging Knowledge

Minutes

4th Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

7th April 2018

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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School of Electronics & Communication Engineering
KLE Tech University
BVBCET Campus, Hubballi –31

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 7th April 2018 at 10:30 am at the ED Studio of the School.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Nalini C.Iyer	Head of School, SoECE	Chairperson
2.	Dr. R M Bankar	Professor, SoECE	Member
3.	Dr. Uma Mudengudi	Professor, SoECE	Member
4.	Dr. Priyatamkumar	Professor, SoECE	Member
5.	Dr. Anil Nandi	Professor, SoECE	Member
6.	Dr. Saroja S	Professor, SoECE	Member
7.	Prof. Ujwala Patil	Associate Professor, SoECE	Member
8.	Prof. Sanjay Eligar	Assistant Professor, SoECE	Member
9.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
10.	Dr. Chetan Parekh	Professor, Department of EC,IIIT Bangalore	Member
11.	Dr. Lokesh Boregouda	Head Research, Samsung India, Bangalore	Member
12.	Dr. P Subbanna Bhat	Professor Emirates, KLE Tech	Member
13.	Mr. Vivek G Pawar	Founder & CEO, Sankalp Semiconductor	Member
14.	Mrs. Padmini Navalgund	RBEI, Bangalore	Member
15.	Mr. Shiva Turmuri	Analog Devices, Bangalore	Member
16.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductor	Member
17.	Dr. Sujata S Kotabagi	Professor, SoECE	Member
18.	Dr. R B Shettar	Professor, SoECE	Member
19.	Prof. Suneeta V B	Professor, SoECE	Member
20.	Prof. P. C. Nissimgoudar	Associate Professor, SoECE	Member
21.	Prof, Rohini Hongal	Associate Professor, SoECE	Member
22.	Prof. R. M. Shet	Assistant Professor, SoECE	Member
23.	1. UG: Rohan D 2. UG: Sheetal 3. PG1 :Ravi 4. PG2: Pratima 5. PhD: Suhas Shirol		Student Members

The following members have sought leave of absence:

Sl No	Name	Designation	Position
1.	Dr. Lokesh Boregouda	Head Research, Samsung India, Bangalore	Member
2.	Mr. Shiva Turmuri	Analog Devices, Bangalore	Member
3.	Mr. Vivek G Pawar	Founder & CEO, Sankalp Semiconductor	Member

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Agenda

Sl No	Particulars	Page No.
4.1	To welcome the BoS Members and present department achievements & initiatives	
4.2	To read and confirm the minutes of 3rd BoS meeting held on 15th April 2017	
4.3	To confirm the action taken report on the minutes of the previous meeting held on 15th April 2017	
4.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2018-22) b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) c) Scheme approval of III to VIII Semester (2017-21) d) Syllabus approval of III to VIII Semester (2017-21) e) Scheme approval of V to VIII Semester (2016-20) f) Syllabus approval of V to VIII Semester (2016-20) g) Modification of Scheme of VII and VIII Semester (2015-19) h) Syllabus approval of VII and VIII Semester (2015-19) i) Scheme approval: Scheme 2017-21 in Minor Program j) Scheme approval: Scheme 2016-20 in Minor Program k) Syllabus approval: Scheme 2016-20 in Minor Program	
4.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2018-20) b) Syllabus approval of I/II Semester (2018-20) c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus approval of III/IV Semester (2017-19)	
4.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2018-20) b) Syllabus approval of I/II Semester (2018-20) c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus approval of III/IV Semester (2017-19)	
4.7	Question Paper review and Discussion on attainment of POs and PSOs	
4.8	Vision, Mission, POs and PSOs of School of ECE	
4.9	Any other matter for discussion with the permission of the chair	

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BoS 4.1	To welcome the BoS Members and present department achievements & initiatives

Resolution 4.1: The BoS members appreciated the initiatives of SoECE and lauded its achievements.

BoS 4.2	To read and confirm the minutes of 3rd BoS meeting held on 15th April 2017	
	BoS 3.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 4.1)** **Resolution 3.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.
	BoS 3.2	To read and confirm the minutes of 3rd BoS meeting held on 15th April 2017 **Resolution 3.2: Minutes of the last meeting were read and confirmed by BoS.**
	BoS 3.3	To confirm the action taken report on the minutes of the previous meeting held on 15th April 2017 **Resolution 3.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 15th April 2017 and suggestions were implemented.**
	BoS 3.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2017-21) batch b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2017-21) batch c) Scheme approval of III to VIII Semester (2016-20) batch d) Syllabus approval of III to VIII Semester (2016-20) batch e) Modification of Scheme of V to VIII Semester (2015-19) batch f) Syllabus approval of V and VI Semester (2015-19) batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 3.4.*** ***Action Item No.1: Action Item No.1: Suggested new core courses*** *focusing on project based learning* 1) Machine learning 2) Mini Project 3) Minor project 4) Engineering Design 5) Product Realization ***Action Item No.2: Model based design approach for rapid prototyping*** 1) Automotive electronics laboratory ***Action Item No.3: Integrated Approach:*** *focus on hands on and code optimization* 1) Operating system and Embedded system ***Action Item No.4: Enhancing reasoning ability and investigation and interpretation****: Open ended experiments* 1) Communication and Signal processing lab 2) Computer communication network lab ***Action Item No.5****: **Flipped mode** of delivery to strengthened system design concepts* *1) Linear Integrated circuits* ***Action Item No.6****: **Suggested new elective courses** with Industry Collaboration for design and*

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		delivery 1) Advanced Digital Logic 2) Advanced Digital Logic Verification 3) Analog Circuit Design 4) Internet of Things **Resolution 3.4: Resolved to approve the following Schemes and Syllabi of the B.E in Electronics & Communication subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2017-21) batch.** **b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2017-21) batch** **c) Scheme of III to VIII Semester (2016-20) batch.** **d) Syllabus of III to VIII Semester (2016-20) batch.** **e) Modification of Scheme of V to VIII Semester (2015-19) batch** **f) Syllabus of V and VI Semester (2015-19) batch.** **g) Scheme of Minor program of 2016-20 batch.** **h) Scheme of Minor program of 2015-19 batch.**
	BoS 3.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Data Structures using C 2. Analog and Digital Circuits 3. Principals of Embedded systems 4. Fundamentals of signal processing 5. RISC Architectures 6. Machine learning 7. Electronics System Design 8. Embedded software design 9. Automotive communication 10. Automotive Electronics 11. Multimedia Signal processing ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1. Data Communication 2. Image and video processing 3. Digital Control System 4. Multi sensor data fusion 5. Internet of Things (IoT) 6. AUTOSAR 7. Multirate signal processing

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	Resolution 3.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subjected to implementation of action points listed above. **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**
BoS 3.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Data Structures using C 2. Analog and Digital Circuits 3. Principals of Embedded systems 4. RISC Architectures 5. Electronics System Design 6. Real Time Embedded Systems 7. Advanced Digital Logic Design(ADLD) 8. Testing and IC Characterizing 9. Embedded software design 10. Automotive communication 11. Automotive Electronics 12. Advanced Digital Logic Verification(ADLV) ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1. Data Communication 2. Image and video processing 3. Digital Control Systems 4. Standard cell design and Layout 5. Low power VLSI Circuits 6. Analog and Mixed Mode VLSI Circuits 7. Internet of Things 8. AUTOSAR 9. ASIC Design 10. MEMS **Resolution 3.6: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in in VLSI Design and Embedded Systems subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**
BoS 3.7	Question Paper review

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		Discussion: The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping presented. **Resolved to approve the Question Paper Pattern**	
	BoS 3.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 2.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**	
	BoS 3.9	Any other subject with the permission of the Chair Nil.	
	Resolution 4.2: Resolved to confirm the minutes of its 3rd BoS meeting held on 15th April 2017		
BoS 4.3	BoS 3.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 4.1)** **Resolution 3.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
	BoS 3.2	To read and confirm the minutes of 3rd BoS meeting held on 15th April 2017 **Resolution 3.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
	BoS 3.3	To confirm the action taken report on the minutes of the previous meeting held on 15th April 2017 **Resolution 3.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 15th April 2017 and suggestions were implemented.**	Noted
	BoS 3.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2017-21) batch b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2017-21) batch c) Scheme approval of III to VIII Semester (2016-20) batch d) Syllabus approval of III to VIII Semester (2016-20) batch e) Modification of Scheme of V to VIII Semester (2015-19) batch f) Syllabus approval of V and VI Semester (2015-19) batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 3.4.*** ***Action Item No.1: Action Item No.1: Suggested new core courses*** *focusing on project based learning* 1) Machine learning 2) Mini Project 3) Minor project	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *focusing on project based learning* ***ATR:*** *Introduction of* ***Machine learning*** *course with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems in collaboration with Samsung R&D, Bangalore.* ***Mini Project*** *focusing on embedded programming and optimization* ***Minor project*** *theme based in the domain of VLSI, Communication and Embedded systems.* ***Engineering Design and Product Realization****: Design process from concept to solution and Building prototypes.* *Changes are made according to the suggestions and will be presented*

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		4) Engineering Design 5) Product Realization ***Action Item No.2: Model based design approach for rapid prototyping*** 1) Automotive electronics laboratory ***Action Item No.3: Integrated Approach:*** *focus on hands on and code optimization* 1) Operating system and Embedded system ***Action Item No.4: Enhancing reasoning ability and investigation and interpretation****: Open ended experiments* 1) Communication and Signal processing lab 2) Computer communication network lab ***Action Item No.5: Flipped mode*** *of delivery to strengthened system design concepts* 1) Linear Integrated circuits ***Action Item No.6: Suggested new elective courses*** *with Industry Collaboration for design and delivery* 1) Advanced Digital Logic 2) Advanced Digital Logic Verification 3) Analog Circuit Design 4) Internet of Things **Resolution 3.4: Resolved to approve the following Schemes and Syllabi of the B.E in Electronics & Communication subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2017-21) batch.** **b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams (2017-21) batch** **c) Scheme of III to VIII Semester (2016-20) batch.** **d) Syllabus of III to VIII Semester (2016-20) batch.** **e) Modification of Scheme of V to VIII Semester (2015-19) batch** **f) Syllabus of V and VI Semester (2015-19) batch.** **g) Scheme of Minor program of 2016-20 batch.** **h) Scheme of Minor program of 2015-19 batch.**	*during the next BoS.* ***Action Item No.2: Model based design approach for rapid prototyping.*** ***ATR:*** *Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems is introduced in* ***Automotive electronics laboratory*** *in collaboration with Bosch, Bangalore.* ***Action Item No.3: Integrated Approach:*** *focus on hands on and code* optimization ***ATR:*** *Integrated theory and lab approach is adapted to bridge the gap between understanding theoretical and realization the same with programming and also coding style and optimization in the course* **Operating system and embedded system** ***Action Item No.4: Enhancing reasoning ability and investigation and interpretation:*** *Open ended experiments* ***ATR:*** *Laboratory curriculum focusing on structured and open ended category of experiments to increase students reasoning ability and experimental investigations enhanced.* *Socket programming skills for point to point communication, point to multi point communication and open ended experiments for application of network devices such as switches and routers in collaboration with Juniper Networks, Bangalore is introduced in* ***Computer Communication Network Lab.*** *Design and testing of communication protocols with performance analysis using software defined radio (SDR) is introduced in* ***Communication and signal processing lab.*** ***Action Item No.5****: Flipped mode of delivery to strengthened system*

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			design concepts. ***ATR:*** *Flipped mode of teaching is introduced is introduced to strengthened design concepts for* ***Linear Integrated Circuits*** *course which engages students learning beyond class hours with interactive problem solving interface.* ***Action Item No.6: Suggested new elective courses*** *with Industry Collaboration for design and delivery* ***ATR:*** *Elective courses (4) are introduced in in verticals (identified by SoECE) VLSI, Embedded and Communication Systems in collaboration with Industry in respective domain.* *Specialized Courses in VLSI domain, one of the vertical of SoECE, introduced are* ***Advanced Digital Logic design and Advanced Digital Logic Verification*** *in collaboration with SEER academy and IESA, Bangalore whereas* ***Analog Circuit design*** *in collaboration with Sankalp semiconductors Pvt. Ltd, hubli with focus on project based learning.* *Course on* ***Internet of Things (IoT)*** *is introduced in interaction with Bosch, Bangalore.* *Changes are made according to the suggestions and will be presented during the next BoS.*
	BoS 3.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *Fundamental concepts of analog and digital electronics with application*

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		the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses** to strengthen basic concepts and programming* 1. Data Structures using C 2. Analog and Digital Circuits 3. Principals of Embedded systems 4. Fundamentals of signal processing 5. RISC Architectures 6. Machine learning 7. Electronics System Design 8. Embedded software design 9. Automotive communication 10. Automotive Electronics 11. Multimedia Signal processing ***Action Item No.2: Suggested new electives courses** to build background with application perspective* 1. Data Communication 2. Image and video processing 3. Digital Control System 4. Multi sensor data fusion 5. Internet of Things (IoT) 6. AUTOSAR 7. Multirate signal processing **Resolution 3.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**	*perspective is introduced in the courses **Analog and Digital Circuits and Electronic System Design.*** *Integrated theory and lab approach is adopted to bridge the gap between understanding theoretical concepts and realization of the same with programming and also coding style and optimization in basic courses **Principles of Embedded systems, Fundamentals of signal processing, RISC Architectures, Embedded software design, and Multimedia Signal processing.*** *Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems is introduced in courses **Automotive electronics and Automotive communication** in collaboration with Bosch.* *Introduction of machine learning course with Project-based learning* *Changes are made according to the suggestions and will be presented during the next BoS.* ***Action Item No.2: Suggested new electives courses*** ***ATR:*** *Elective courses (7) focusing on embedded systems and Information processing are introduced* *Specialized Courses introduced under Information processing domain are **Data Communication, Image and Video processing, Multirate signal processing and** under Embedded domain are **IoT, Multisensor data fusion and Digital Control system** with focus on hands-on.* *A standardized interface for software components in the application layer for building applications to support the vehicle functions is introduced in **AUTOSAR** in collaboration with Bosch, Bangalore* *Changes are made according to the suggestions and will be presented during the next BoS.*
	BoS 3.6	To consider the Schemes and Syllabi of the	**The BoS members noted the**

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		postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2017-19) b) Syllabus approval of I/II Semester (2017-19) c) Modification of Scheme of III/IV Semester (2016-18) d) Syllabus approval of III/IV Semester (2016-18) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Data Structures using C 2. Analog and Digital Circuits 3. Principals of Embedded systems 4. RISC Architectures 5. Electronics System Design 6. Real Time Embedded Systems 7. Advanced Digital Logic Design(ADLD) 8. Testing and IC Characterizing 9. Embedded software design 10. Automotive communication 11. Automotive Electronics 12. Advanced Digital Logic Verification(ADLV) ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1. Data Communication 2. Image and video processing 3. Digital Control Systems 4. Standard cell design and Layout 5. Low power VLSI Circuits 6. Analog and Mixed Mode VLSI Circuits 7. Internet of Things 8. AUTOSAR 9. ASIC Design 10. MEMS **Resolution 3.6: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in in VLSI Design and Embedded Systems subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2017-19) batch.** **b) Syllabus of I/II Semester (2017-19) batch.** **c) Modification of Scheme of III/IV Semester (2016-18) batch.** **d) Syllabus of III/IV Semester (2016-18) batch.**	**progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *Fundamental concepts of analog and digital electronics with application perspective is introduced in the courses* ***Analog and Digital Circuits, Real Time Embedded Systems and Electronic System Design.*** *Integrated theory and lab approach is adapted to bridge the gap between understanding theoretical concepts and realization of the same with programming and also coding style and optimization in basic courses* ***Principles of Embedded systems, Fundamentals of signal processing, RISC Architectures, Embedded software design.*** *Industry specific Model based design (MBD) for rapid prototyping of Automotive sub systems is introduced in courses* ***Automotive electronics and Automotive Communication*** *in collaboration with Bosch.* *Advanced digital design concepts, their verification and testing is introduced in* ***ADLD, ADLV and Testing and IC Characterization courses*** *respectively with focus on hands-on.* *Changes are made according to the suggestions and will be presented during the next BoS.* ***Action Item No.2: Suggested new electives courses*** ***ATR:*** *Elective courses (10) focusing on embedded systems and VLSI design are introduced.* *Specialized Courses introduced under Embedded Systems domain are* ***Data Communication, Image and Video processing, Digital Control system*** *,* ***IoT*** *and under VLSI domain are* ***ASIC***

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			Design, MEMS, Standard Cell design and Layout, Low power VLSI Circuits and Analog and Mixed mode VLSI *with focus on hands-on.* *A standardized interface for software components in the application layer for building applications to support the vehicle functions is introduced in* ***AUTOSAR*** *in collaboration with Bosch, Bangalore.* *Changes are made according to the suggestions and will be presented during the next BoS.*
	BoS 3.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping presented. **Resolved to approve the Question Paper Pattern**	QP Pattern is incorporated in all the courses.
	BoS 3.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 2.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**	SoECE staff aligned to Vision, Mission, POs and PSOs .
	BoS 3.9	Any other subject with the permission of the Chair Nil.	
	Resolution: 4.3 Resolved to confirm the action taken report on the minutes of its 3rd BoS meeting held on 15th April 2017. The BoS members appreciated the new initiatives taken by SoECE		
BoS 4.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2018-22) b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) c) Scheme approval of III to VIII Semester (2017-21) d) Syllabus approval of III to VIII Semester (2017-21) e) Scheme approval of V to VIII Semester (2016-20) f) Syllabus approval of V to VIII Semester (2016-20) g) Modification of Scheme of VII and VIII Semester (2015-19) h) Syllabus approval of VII and VIII Semester (2015-19) i) Scheme approval: Scheme 2017-21 in Minor Program j) Scheme approval: Scheme 2016-20 in Minor Program k) Syllabus approval: Scheme 2016-20 in Minor Program **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 7th April 2018. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 4.4*** ***Action Item No.1: Suggested new courses*** *to strengthen basic concepts of Communication technology and programming* **a)** Mobile and Wireless Communication **b)** Microwave and Antennas		

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	c) Embedded Linux ***Action Item No.2: Suggested new elective courses*** *with Industry Collaboration for design and delivery* a) CMOS ASIC Design b) Physical Design Analog c) Embedded Intelligent Systems ***Action Item No.3: Enhance programming skills:*** *application to real world problem* a) Data structure applications lab b) C programming (Diploma) ***Action Item No.4: Enhancing Research capabilities*** a) Research Experience for Undergraduates ***Action Item No.5: Enabling Industry Eco System*** a) Institutional Research Project b) Internship Training c) Internship Project. **Resolution 4.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication:** **a) Scheme approval of I to VIII Semester (2018-22)** **b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22)** **c) Scheme approval of III to VIII Semester (2017-21)** **d) Syllabus approval of III to VIII Semester (2017-21)** **e) Scheme approval of V to VIII Semester (2016-20)** **f) Syllabus approval of V to VIII Semester (2016-20)** **g) Modification of Scheme of VII and VIII Semester (2015-19)** h) **Syllabus approval of VII and VIII Semester (2015-19)** **i) Scheme approval: Scheme 2017-21 in Minor Program** **j) Scheme approval: Scheme 2016-20 in Minor Program** **k) Syllabus approval: Scheme 2016-20 in Minor Program**
BoS 4.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2018-20) b) Syllabus approval of I/II Semester (2018-20) c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus approval of III/IV Semester (2017-19) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 7th April 2018. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new course*** *to strengthen basic concepts and programming* 1) Advanced computer architecture and programming. 2) Autosar and infotainment ***Action Item No.2: Enabling Industry Eco System*** 1) Project Phase –I/ Minor Project **Resolution 4.5: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics:** **a) Scheme approval of I to IV Semester (2018-20)** **b) Syllabus approval of I/II Semester (2018-20)**

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	c) Modification of Scheme of III/IV Semester (2017-19) **d) Syllabus approval of III/IV Semester (2017-19)**
BoS 4.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2018-20) b) Syllabus approval of I/II Semester (2018-20) c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus approval of III/IV Semester (2017-19) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 7th April 2018. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core course*** *to strengthen basic concepts and programming* *1) Machine learning* 2) Advanced computer architecture and programming. ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1) System simulation and modeling 2) System on Chip **Resolution 4.6: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in in VLSI Design and Embedded Systems** **a) Scheme approval of I to IV Semester (2018-20)** **b) Syllabus approval of I/II Semester (2018-20)** **c) Modification of Scheme of III/IV Semester (2017-19)** d) **Syllabus approval of III/IV Semester (2017-19)**
BoS 4.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.
BoS 4.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented.
BoS 4.9	Any other subject with the permission of the Chair Nil.

The Chairperson thanked all the members for the fantastic contributions

Dr. Nalini C Iyer
Chairperson, BoS, SoECE

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Annexure 4.1

Discussion Item

Employers Feedback:

- Students should be able to evaluate the economic and financial performance of an engineering activity.
- Able to generate a diverse set of alternative design solutions for the given application.
- Enhance ability to identify and formulate problem in designing electronic system for real world applications.
- Enhance basic programming skills, to apply and realize real world problems.
- Understanding of professional engineering regulations, legislation and standards.
- Ability to apply the Code of Ethics and responsibilities.
- Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded/Communication systems.

Teachers Feedback (Pre-BoS MoM):

- Conceptual understanding of systems and their functional verification with hardware implementation is recommended.
- To focus on latest trends in communication technology.
- Formulation of application oriented examples
- Focus on problem solving using programming skills and use of online platform.
- Focus on embedded programing with and without optimization
- Collaborate with industry to get exposure to complete chip design flow, tools, courses etc.
- Lateral Entry Student's lack basic programming skills, to apply and realize real world problems and also rigor of practice.

Students Feedback:

- Focus on exposure to industries working in the domain of AI and ML.
- Hands on using EDA tools with Integrated Development Environment (IDEs).

Alumni Feedback:

- Knowledge of latest trends in mobile communication technology.
- Industry specific skills for employability.
- Depth of programming and analysis
- Recommended to include emulators for debugging and inclusion of Linux concepts for embedded systems.
- Recommended industry visits and internships.
- Need for Code profiling and introduction to online coding platform.
- Suggested to have projects reviews with industry experts and seek inputs.
- Recommended for Industry specific courses with collaboration and co-teaching.

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Annexure 4.4

Discussion Item	Course
BE (ECE)	
1. To understand how emerging technologies are changing the landscape, including enterprise personnel responsible for making cellular communications decisions(5G wireless communications), a wireless and mobile communication is added as a core course focusing on cellular communication methods, standards and cellular networks operation	Mobile and Wireless Communication-18EECC401 Added-New Course
2. To know in-depth know-how of microwave engineering and antennas for use in future applications, like millimetre-wave 5G/beyond-5G wireless communications or automotive radar, that requires integrated antenna systems a course on Microwave and Antennas is introduced as an elective course.	Microwave and Antennas-18EECE411 . Added-New Course
3. To gain complete chip design flow knowledge CMOS ASIC design course in collaboration with industry is introduced with hands-on intensive. The course covers the Physical design flow of IC. Experiments explore complete digital design flow of programmable ASIC through VLSI EDA tools. The course contents have been designed keeping in view the emerging trends in needs for skilled manpower. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates. Students work from design entry using Verilog code to GDSII file generation of an ASIC.	CMOS ASIC Design-18EECE420 Added-New Course
4. A course in the domain of analog vlsi in collaboration with industry to enhance teaching learning in Analog circuit design and layout, in turn build upon competency through mini minor and capstone projects. The course is highly practical oriented with 75 % of time spend on hands on practices by the candidates with emphasis on hands-on using industry standard tools	Physical Design Analog-18EECE419 Added-New Course
5. Linux-based embedded systems are widely used in smartphones, in-vehicle infotainment systems, consumer electronics and for numerous industrial applications, resulting in the demand for qualified embedded system engineers with hands on in Linux. To make students acquire the practical skills involved in building an embedded Linux system, as well as debugging and profiling application an elective course on embedded Linux is introduced.	Embedded Linux-18EECE405 Added-New Course
6. To get an industry like experience of deep learning technology on mobile devices using Android, and enrich students understanding from concept development to model deployment.	Embedded Intelligent Systems-17EECE310 Added-New Course
7. A course on data structure application is introduced to enhance rigor in building programming skills and to bridge the gap of applying the required data structures and algorithmic skills to solve complex real world problems. Emphasis is on use of industry standard coding and online coding platform.	Data structure applications lab-18EECC210 Added-New Course
8. To impart programming skills for lateral entry students, a basic course on C programming is introduced	C programming for Diploma-18EECF204 Added-New Course
9. A course on Institutional Research project (IRP) is introduced to provide students an exposure for solving a real time projects involving current technologies using KLETECH echo system as a live lab.	Institutional Research Project-17EECE491 Added-New Course
10. A course REU is introduced to enable students to take part in the research mission in their future career during and beyond their academia. It also helps them to experience and learn to identify, solve and evaluate Engineering solution for a real time problem.	Research for UG-17EECE490 Added-New Course

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11. The minor in electronics is specially designed to enable the students from non-circuit discipline to develop their basic competency in electronic s and embedded systems relevant to their major disciplines, enhancing their carrier opportunities. Program engages students for 300 hours of experiential learning through 4 courses followed by a project.	Minor Programme Added-New Course
12. Industry Internship training is introduced to enable students for the industry echo system while working on live projects.	Internship Training-18EECI493 Added-New Course
13. Industry Internship project is introduced to enable students to work on live projects with industry skill sets and meeting deadlines	Internship Project-18EECW494 Added-New Course
M.Tech Digital Electronics	
1. To evaluate the issues involved in choosing the proper instruction sets and to learn the concepts behind advanced pipelining techniques and to understand the qualitative and quantitative tradeoffs in the design of modern computer systems.	Advanced Compter Architecture and Programming-17EDEC801 Added-New Course
2. Industry Internship training is introduced to enable students for the industry echo system while working on live projects.	17EDEW801 Revised
M.Tech VLSI Design and Embedded Systems	
1. To evaluate the issues involved in choosing the proper instruction sets and to learn the concepts behind advanced pipelining techniques and to understand the qualitative and quantitative tradeoffs in the design of modern computer systems.	Advanced Computer Architecture and Programming-17EVEC801 Added-New Course
2. Industry Internship training is introduced to enable students for the industry echo system while working on live projects.	17EDEW801 Revised
3. Introduction of machine learning course with Project-based learning.	Machine Learning-17EVEC708 Added-New Course
4. Introduction of an elective course which helps the students to visualize the integration of multiple components of a system onto a single chip with interconnection structures (Buses and Networks) and accelerators.	System on Chip-17EVEE806 Added-New Course
5. A course is introduced to give an insight on the concepts and classification of modelling and simulation and their architecture and application areas.	System Simulation and Modelling-17EVEE804 Added-New Course

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KLE Technological University

Creating Value

Leveraging Knowledge

Action Taken Report

4th Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

7th April 2018

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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The following are the action items proposed during 3rd Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 15thApril 2017. The corresponding actions taken are also listed below.

Item No	Description	Action Taken
BoS 4.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 4.1)** **Resolution 3.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 4.2	To read and confirm the minutes of 3rd BoS meeting held on 15th April 2017 **Resolution 3.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 4.3	To confirm the action taken report on the minutes of the previous meeting held on 15th April 2017 **Resolution 3.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 15th April 2017 and suggestions were implemented.**	Noted
BoS 4.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. **a)** Scheme of I to VIII Semester (2018-22) Batch **b)** Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) Batch **c)** Scheme of III to VIII Semester (2017-21) Batch **d)** Syllabus of III to VIII Semester (2017-21) Batch **e)** Scheme of V to VIII Semester (2016-20) Batch **f)** Syllabus of V to VIII Semester (2016-20) Batch **g)** Modification of Scheme of VII and VIII Semester (2015-19) Batch **h)** Syllabus of VII and VIII Semester (2015-19) Batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 7th April 2018. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 4.4*** ***Action Item No.1: Suggested new courses*** *to strengthen basic concepts of Communication technology and programming* **a)** Mobile and Wireless Communication **b)** Microwave and Antennas **c)** Embedded Linux ***Action Item No.2: Suggested new elective courses*** *with Industry Collaboration for design and delivery* **a)** CMOS ASIC Design **b)** Physical Design Analog **c)** Embedded Intelligent Systems ***Action Item No.3: Enhance programming skills:*** *application to real world problem* **a)** Data structure applications lab **b)** C programming (Diploma) ***Action Item No.4: Enhancing Research capabilities*** **a)** Research Experience for Undergraduates ***Action Item No.5: Enabling Industry Eco System*** **a)** Institutional Research Project	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new courses*** *to strengthen basic concepts of Communication technology and programming* ***ATR:*** *To understand how emerging technologies are changing the landscape responsible for making cellular communications decisions (5G wireless communications), a* ***wireless and mobile communication*** *is added as a core course focusing on cellular communication methods, standards and cellular networks operation.* *A course on* ***Microwave and Antennas*** *is introduced as an elective course.* *To know in-depth know-how of microwave engineering and antennas for use in future applications, like millimeter-wave 5G/beyond-5G wireless communications or automotive radar, which requires integrated antenna systems.* *An elective course on* ***Embedded Linux*** *is introduced to make students acquire the practical skills involved in building an Embedded Linux System, as well as debugging and profiling application.* ***Action Item No.2: Suggested new elective courses*** *with Industry Collaboration for design and delivery* *ATR:* *To gain complete chip design flow knowledge* ***CMOS ASIC design*** *course in collaboration with Sifive, Bangalore is*

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	b) Internship Training c) Internship Project. **Resolution 4.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication:** **a) Scheme of I to VIII Semester (2018-22) batch.** **b) Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) batch.** **c) Scheme of III to VIII Semester (2017-21) batch.** **d) Syllabus of III to VIII Semester (2017-21) batch.** **e) Scheme of V to VIII Semester (2016-20) batch.** **f) Syllabus of V to VIII Semester (2016-20) batch.** **g) Modification of Scheme of VII and VIII Semester (2015-19).** **h) Syllabus of VII and VIII Semester (2015-19) batch.** **i) Scheme for Minor program in electronics for (2017-21) Batch** **j) Scheme for Minor program in electronics for (2016-20) Batch** **k) Scheme for Minor program in electronics for (2016-20) Batch**	*introduced with hands-on to cover the Physical design flow of IC.* *A course in the domain of analog VLSI in collaboration with industry to enhance teaching learning in Analog VLSI i.e.* ***Physical Design Analog*** *and layout is introduced.* *To get an industry like experience of deep learning technology on mobile devices using Android, and enrich students understanding from concept development to model deployment a course* ***Embedded Intelligent System*** *is introduced in collaboration with Samsung R&D.* ***Action Item No.3: Enhance programming skills:*** *application to real world problem* **ATR:** A course on **Data Structure application** is introduced to enhance rigor in building programming skills and to bridge the gap of applying the required data structures and algorithmic skills to solve complex real world problems. Emphasis is on use of industry standard coding and online coding platform. To impart programming skills for lateral entry(Diploma) students, a basic course on C **programming** is introduced. ***Action Item No.4: Enhancing Research capabilities.*** **ATR:** a course on **Research Experience for Undergraduates** is introduced to enable students to take part in the research mission in their future career during and beyond their academia ***Action Item No.5: Enabling Industry Eco System.*** **ATR:** A course on **Institutional Research project** (IRP) is introduced to provide students an exposure for solving a real time projects involving current technologies. **Industry Internship training and project** is introduced to enable students for the industry echo system while working on live projects.
BoS 4.5	To consider the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2018-20) batch. b) Syllabus of I/II Semester (2018-20) batch. c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus of III/IV Semester (2017-19) batch.	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new course*** *to strengthen basic concepts and*

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	Discussion: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new course*** *to strengthen basic concepts and programming* 1) Advanced computer architecture and programming. 2) Autosar and infotainment ***Action Item No.2: Enabling Industry Eco System*** 1) Project Phase –I/ Minor Project **Resolution 4.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics:** **a) Scheme of I to IV Semester (2018-20) batch.** **b) Syllabus of I/II Semester (2018-20) batch.** **c) Modification of Scheme of III/IV Semester (2017-19) batch.** **d) Syllabus of III/IV Semester (2017-19) batch.**	*programming* *ATR:* *A course on* **Advanced computer architecture and programming** is introduced *to give insights on the concepts of advance pipelining and trade off in design of modern computer systems* for performance analysis. *To acquire skills related to electrification, connectivity and infotainment to support the vehicle functions and A standardized interface for software components in the application layer, a course on* **Autosar and infotainment** *is introduced in collaboration with Bosch, Bangalore* ***Action Item No.2: Enabling Industry Eco System*** **Project Phase-I/ Minor Project** is introduced to enable students for the industry echo system while working on live projects.
BoS 4.6	To consider the Schemes and Syllabi of the postgraduate program M. Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme of I to IV Semester (2018-20) b) Syllabus of I/II Semester (2018-20) c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus of III/IV Semester (2017-19) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core course*** *to strengthen basic concepts and programming* *1) Machine learning* 2) Advanced computer architecture and programming. ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1) System simulation and modeling 2) System on Chip **Resolution 4.7: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in in VLSI Design and Embedded Systems.** **a) Scheme of I to IV Semester (2018-20) batch** **b) Syllabus of I/II Semester (2018-20) batch** **c) Modification of Scheme of III/IV Semester (2017-19)** **d) Syllabus of III/IV Semester (2017-19) batch.**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core course*** *to strengthen basic concepts and programming* *ATR:* *Introduction of* **Machine learning** *course with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems.* *To give insights on the concepts of advance pipelining and trade off in design of modern computer systems a course* **Advanced computer architecture and programming** is introduced. ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* *ATR:* *A course is introduced to give insights on the concepts and classification of* ***modeling and simulation.*** *To introduce students to the concepts of system integration on a single chip and their interconnections a course* ***System on***

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		***Chip** is introduced.*
BoS 4.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented. **Resolution 4.7: Resolved to approve the Question Paper Pattern**	QP Pattern is incorporated in all the courses.
BoS 4.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 4.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**	SoECE staff aligned to Vision, Mission, POs and PSOs .
BoS 4.9	Any other subject with the permission of the Chair Nil.	

Dr. Nalini Iyer
Chairperson, BoS, SoECE

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Creating Value

Leveraging Knowledge

Minutes

5th Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

13th April 2019

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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KLE Tech University
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The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 13th April 2019 at 9:30 am at the in Senate Hall of University.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Nalini C.Iyer	Head of School, SoECE	Chairperson
2.	Dr. R M Bankar	Professor, SoECE	Member
3.	Dr. Uma Mudengudi	Professor, SoECE	Member
4.	Dr. Priyatamkumar	Professor, SoECE	Member
5.	Dr. Saroja S	Professor, SoECE	Member
6.	Prof. Ujwala Patil	Associate Professor, SoECE	Member
7.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
8.	Dr. Chetan Parekh	Professor, Department of EC,IIIT Bangalore	Member
9.	Mr. Praveen B P	Samsung India, Bangalore	Member
10.	Mrs. Padmini Navalgund	RBEI, Bangalore	Member
11.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductor	Member
12.	Mr. Shivakumar Turmari	Tessolve Semiconductors, Bangalore	Member
13.	Dr. Sujata S Kotabagi	Professor, SoECE	Member
14.	Dr. R B Shettar	Professor, SoECE	Member
15.	Prof. Suneeta V B	Professor, SoECE	
16.	Prof. P. C. Nissimgoudar	Associate Professor, SoECE	
17.	Prof. R. M. Shet	Assistant Professor, SoECE	
18.	1. UG: Pranav K 2. UG: Niveditha J 3. PG1 :Vijaylakshmi 4. PG2: Saiarpita 5. PhD: Suhas Shirol		Student Members

The following members have sought leave of absence:

Sl No	Name	Designation	Position
1.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
2.	Dr. Chetan Parekh	Professor, Department of EC,IIIT Bangalore	Member
3.	Mr. Shivakumar Turmari	Tessolve Semiconductors, Bangalore	Member
4.	Mr. Vivek Pawar	Sankalp Semiconductors, Hubballi	Member

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Agenda

Sl No	Particulars	Page No.
5.1	To welcome the BoS Members and present department achievements & initiatives	
5.2	To read and confirm the minutes of 4th BoS meeting held on 7th April 2018	
5.3	To confirm the action taken report on the minutes of the previous meeting held on 7th April 2018	
5.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2019-23) b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2019-23) c) Scheme approval of III to VIII Semester (2018-22) d) Syllabus approval of III to VIII Semester (2018-22) e) Scheme approval of V to VIII Semester (2017-21) f) Syllabus approval of V to VIII Semester (2017-21) g) Scheme approval of VII and VIII Semester (2016-20) h) Syllabus approval of V and VIII Semester (2016-20) i) Scheme approval: Scheme 2018-22 in Minor Program j) Scheme approval: Scheme 2017-21 in Minor Program k) Syllabus approval: Scheme 2017-21 in Minor Program	
5.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2019-21) b) Syllabus approval of I/II Semester (2019-21) c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus approval of III/IV Semester (2018-20)	
5.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2019-21) b) Syllabus approval of I/II Semester (2019-21) c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus approval of III/IV Semester (2018-20)	
5.7	Question Paper review and Discussion on attainment of POs and PSOs	
5.8	Vision, Mission, POs, PSOs of School of ECE and CAM and PAM	
5.9	Any other matter for discussion with the permission of the chair	

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BoS 5.1	To welcome the BoS Members and present department achievements & initiatives

Resolution 4.1: The BoS members appreciated the initiatives of SoECE and lauded its achievements.

BoS 5.2	To read and confirm the minutes of 4th BoS meeting held on 7th April 2018

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi, which was held on 7th April 2018 at 10:30 am at the Senate Hall of the University.

The following members were present.

BoS 4.2	To read and confirm the minutes of 4th BoS meeting held on 7th April 2018

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi, which was held on 7th April 2018 at 10:30 am at the ED Studio of the School.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Nalini C.Iyer	Head of School, SoECE	Chairperson
2.	Dr. R M Bankar	Professor, SoECE	Member
3.	Dr. Uma Mudengudi	Professor, SoECE	Member
4.	Dr. Priyatamkumar	Professor, SoECE	Member
5.	Dr. Anil Nandi	Professor, SoECE	Member
6.	Dr. Saroja S	Professor, SoECE	Member
7.	Prof. Ujwala Patil	Associate Professor, SoECE	Member
8.	Prof. Sanjay Eligar	Assistant Professor, SoECE	Member
9.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
10.	Dr. Chetan Parekh	Professor, Department of EC,IIIT Bangalore	Member
11.	Dr. Lokesh Boregouda	Head Research, Samsung India, Bangalore	Member
12.	Dr. P Subbanna Bhat	Professor Emirates, KLE Tech	Member
13.	Mr. Vivek G Pawar	Founder & CEO, Sankalp Semiconductor	Member
14.	Mrs. Padmini Navalgund	RBEI, Bangalore	Member
15.	Mr. Shiva Turmuri	Analog Devices, Bangalore	Member
16.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductor	Member
17.	Dr. Sujata S Kotabagi	Professor, SoECE	Member
18.	Dr. R B Shettar	Professor, SoECE	Member
19.	Prof. Suneeta V B	Professor, SoECE	Member
20.	Prof. P. C. Nissimgoudar	Associate Professor, SoECE	Member
21.	Prof, Rohini Hongal	Associate Professor, SoECE	Member
22.	Prof. R. M. Shet	Assistant Professor, SoECE	Member
23.	1. UG: Rohan D 2. UG: Sheetal 3. PG1 :Ravi 4. PG2: Pratima 5. PhD: Suhas Shirol		Student Members

Item No	Description
BoS 4.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 5.1)** **Resolution 4.1: The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.**

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BoS 4.2	To read and confirm the minutes of 4th BoS meeting held on 7th April 2018 **Resolution 4.2: Minutes of the last meeting were read and confirmed by BoS.**
BoS 4.3	To confirm the action taken report on the minutes of the previous meeting held on 7th April 2018 **Resolution 4.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 7th April 2018 and suggestions were implemented.**
BoS 4.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. **a)** Scheme of I to VIII Semester (2018-22) Batch **b)** Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) Batch **c)** Scheme of III to VIII Semester (2017-21) Batch **d)** Syllabus of III to VIII Semester (2017-21) Batch **e)** Scheme of V to VIII Semester (2016-20) Batch **f)** Syllabus of V to VIII Semester (2016-20) Batch **g)** Modification of Scheme of VII and VIII Semester (2015-19) Batch **h)** Syllabus of VII and VIII Semester (2015-19) Batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 7th April 2018. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 4.4*** ***Action Item No.1: Suggested new courses*** *to strengthen basic concepts of Communication technology and programming* **a)** Mobile and Wireless Communication **b)** Microwave and Antennas **c)** Embedded Linux ***Action Item No.2: Suggested new elective courses*** *with Industry Collaboration for design and delivery* **a)** CMOS ASIC Design **b)** Physical Design Analog **c)** Embedded Intelligent Systems ***Action Item No.3: Enhance programming skills:*** *application to real world problem* **a)** Data structure applications lab **b)** C programming (Diploma) ***Action Item No.4: Enhancing Research capabilities*** **a)** Research Experience for Undergraduates ***Action Item No.5: Enabling Industry Eco System*** **a)** Institutional Research Project **b)** Internship Training **c)** Internship Project. **Resolution 4.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication:** **a)** **Scheme of I to VIII Semester (2018-22) batch.** **b)** **Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) batch.** **c)** **Scheme of III to VIII Semester (2017-21) batch.** **d)** **Syllabus of III to VIII Semester (2017-21) batch.** **e)** **Scheme of V to VIII Semester (2016-20) batch.**

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	f) Syllabus of V to VIII Semester (2016-20) batch. **g) Modification of Scheme of VII and VIII Semester (2015-19).** **h) Syllabus of VII and VIII Semester (2015-19) batch.** **i) Scheme for Minor program in electronics for (2017-21) Batch** **j) Scheme for Minor program in electronics for (2016-20) Batch** **k) Scheme for Minor program in electronics for (2016-20) Batch**
BoS 4.5	To consider the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2018-20) batch. b) Syllabus of I/II Semester (2018-20) batch. c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus of III/IV Semester (2017-19) batch. **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new course*** *to strengthen basic concepts and programming* 1) Advanced computer architecture and programming. 2) Autosar and infotainment ***Action Item No.2: Enabling Industry Eco System*** 1) Project Phase –I/ Minor Project **Resolution 4.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics:** **a) Scheme of I to IV Semester (2018-20) batch.** **b) Syllabus of I/II Semester (2018-20) batch.** **c) Modification of Scheme of III/IV Semester (2017-19) batch.** **d) Syllabus of III/IV Semester (2017-19) batch.**
BoS 4.6	To consider the Schemes and Syllabi of the postgraduate program M. Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme of I to IV Semester (2018-20) b) Syllabus of I/II Semester (2018-20) c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus of III/IV Semester (2017-19) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core course*** *to strengthen basic concepts and programming* *1) Machine learning* 2) Advanced computer architecture and programming. ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1) System simulation and modeling 2) System on Chip

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		Resolution 4.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in in VLSI Design and Embedded Systems. **a) Scheme of I to IV Semester (2018-20) batch** **b) Syllabus of I/II Semester (2018-20) batch** **c) Modification of Scheme of III/IV Semester (2017-19)** **d) Syllabus of III/IV Semester (2017-19) batch.**
	BoS 4.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented. **Resolution 4.7: Resolved to approve the Question Paper Pattern**
	BoS 4.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 4.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**
	BoS 4.9	Any other subject with the permission of the Chair Nil.

Resolution 5.2: Resolved to confirm the minutes of its 4th BoS meeting held on 7th April 2018

BoS 5.3 To confirm the action taken report on the minutes of the previous meeting held on **7th April 2018**

Resolution: 4.3 Resolved to confirm the action taken report on the minutes of its 4th BoS meeting held on 7th April 2018. The BoS members appreciated the new initiatives taken by SoECE.

Item No	Description	Action Taken
BoS 4.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 5.1)** **Resolution 4.1: The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.**	Noted
BoS 4.2	To read and confirm the minutes of 4th BoS meeting held on 7th April 2018 **Resolution 4.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 4.3	To confirm the action taken report on the minutes of the previous meeting held on 7th April 2018 **Resolution 4.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 7th April 2018 and suggestions were implemented.**	Noted
BoS 4.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. **a)** Scheme of I to VIII Semester (2018-22) Batch **b)** Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) Batch **c)** Scheme of III to VIII Semester (2017-21) Batch **d)** Syllabus of III to VIII Semester (2017-21) Batch **e)** Scheme of V to VIII Semester (2016-20) Batch **f)** Syllabus of V to VIII Semester (2016-20) Batch	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new courses*** *to strengthen basic concepts of Communication technology and programming* ***ATR:*** *To understand how emerging technologies are changing the landscape responsible for making*

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			g) Modification of Scheme of VII and VIII Semester (2015-19) Batch h) Syllabus of VII and VIII Semester (2015-19) Batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 7th April 2018. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 4.4*** ***Action Item No.1: Suggested new courses*** *to strengthen basic concepts of Communication technology and programming* a) Mobile and Wireless Communication b) Microwave and Antennas c) Embedded Linux ***Action Item No.2: Suggested new elective courses*** *with Industry Collaboration for design and delivery* a) CMOS ASIC Design b) Physical Design Analog c) Embedded Intelligent Systems ***Action Item No.3: Enhance programming skills:*** *application to real world problem* a) Data structure applications lab b) C programming (Diploma) ***Action Item No.4: Enhancing Research capabilities*** b) Research Experience for Undergraduates ***Action Item No.5: Enabling Industry Eco System*** a) Institutional Research Project b) Internship Training c) Internship Project. **Resolution 4.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication:** **a) Scheme of I to VIII Semester (2018-22) batch.** **b) Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2018-22) batch.** **c) Scheme of III to VIII Semester (2017-21) batch.** **d) Syllabus of III to VIII Semester (2017-21) batch.** **e) Scheme of V to VIII Semester (2016-20) batch.** **f) Syllabus of V to VIII Semester (2016-20) batch.** **g) Modification of Scheme of VII and VIII Semester (2015-19).**	*cellular communications decisions (5G wireless communications), a **wireless and mobile communication** is added as a core course focusing on cellular communication methods, standards and cellular networks operation.* *A course on **Microwave and Antennas** is introduced as an elective course.* *To know in-depth know-how of microwave engineering and antennas for use in future applications, like millimeter-wave 5G/beyond-5G wireless communications or automotive radar, which requires integrated antenna systems.* *An elective course on **Embedded Linux** is introduced to make students acquire the practical skills involved in building an Embedded Linux System, as well as debugging and profiling application.* ***Action Item No.2: Suggested new elective courses*** *with Industry Collaboration for design and delivery* *ATR:* *To gain complete chip design flow knowledge **CMOS ASIC design** course in collaboration with Sifive, Bangalore is introduced with hands-on to cover the Physical design flow of IC.* *A course in the domain of analog VLSI in collaboration with industry to enhance teaching learning in Analog VLSI i.e. **Physical Design Analog** and layout is introduced.* *To get an industry like experience of deep learning technology on mobile devices using Android, and enrich students understanding from concept development to model deployment a course **Embedded Intelligent System** is introduced in collaboration with Samsung R&D.* ***Action Item No.3: Enhance programming skills:*** *application to real world problem*

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		h) **Syllabus of VII and VIII Semester (2015-19) batch.** i) **Scheme for Minor program in electronics for (2017-21) Batch** j) **Scheme for Minor program in electronics for (2016-20) Batch** k) **Scheme for Minor program in electronics for (2016-20) Batch**	**ATR:** A course on **Data Structure application** is introduced to enhance rigor in building programming skills and to bridge the gap of applying the required data structures and algorithmic skills to solve complex real world problems. Emphasis is on use of industry standard coding and online coding platform. To impart programming skills for lateral entry(Diploma) students, a basic course on C **programming** is introduced. ***Action Item No.4: Enhancing Research capabilities.*** **ATR:** a course on **Research Experience for Undergraduates** is introduced to enable students to take part in the research mission in their future career during and beyond their academia ***Action Item No.5: Enabling Industry Eco System.*** **ATR:** A course on **Institutional Research project** (IRP) is introduced to provide students an exposure for solving a real time projects involving current technologies. **Industry Internship training and project** is introduced to enable students for the industry echo system while working on live projects.
	BoS 4.5	To consider the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2018-20) batch. b) Syllabus of I/II Semester (2018-20) batch. c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus of III/IV Semester (2017-19) batch. **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new course** to strengthen basic concepts and programming* 1) Advanced computer architecture and programming. 2) Autosar and infotainment ***Action Item No.2: Enabling Industry Eco System***	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new course** to strengthen basic concepts and programming* *ATR:* *A course on* **Advanced computer architecture and programming** is introduced *to give insights on the concepts of advance pipelining and trade off in design of modern computer systems* for performance analysis. *To acquire skills related to electrification, connectivity and infotainment to support the vehicle functions and A standardized*

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		1) Project Phase –I/ Minor Project **Resolution 4.5: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics:** **a) Scheme of I to IV Semester (2018-20) batch.** **b) Syllabus of I/II Semester (2018-20) batch.** **c) Modification of Scheme of III/IV Semester (2017-19) batch.** **d) Syllabus of III/IV Semester (2017-19) batch.**	*interface for software components in the application layer, a course on* **Autosar and infotainment** *is introduced in collaboration with Bosch, Bangalore* ***Action Item No.2: Enabling Industry Eco System*** **Project Phase-I/ Minor Project** is introduced to enable students for the industry echo system while working on live projects.
	BoS 4.6	To consider the Schemes and Syllabi of the postgraduate program M. Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme of I to IV Semester (2018-20) b) Syllabus of I/II Semester (2018-20) c) Modification of Scheme of III/IV Semester (2017-19) d) Syllabus of III/IV Semester (2017-19) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 15th April 2017. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core course*** *to strengthen basic concepts and programming* *1) Machine learning* 2) Advanced computer architecture and programming. ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* 1) System simulation and modeling 2) System on Chip **Resolution 4.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in in VLSI Design and Embedded Systems.** **a) Scheme of I to IV Semester (2018-20) batch** **b) Syllabus of I/II Semester (2018-20) batch** **c) Modification of Scheme of III/IV Semester (2017-19)** **d) Syllabus of III/IV Semester (2017-19) batch.**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core course*** *to strengthen basic concepts and programming* *ATR:* *Introduction of* ***Machine learning*** *course with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems.* *To give insights on the concepts of advance pipelining and trade off in design of modern computer systems a course* **Advanced computer architecture and programming** is introduced. ***Action Item No.2: Suggested new electives courses*** *to build background with application perspective* *ATR:* *A course is introduced to give insights on the concepts and classification of* ***modeling and simulation.*** *To introduce students to the concepts of system integration on a single chip and their interconnections a course* ***System on Chip*** *is introduced.*
	BoS 4.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented. **Resolution 4.7: Resolved to approve the Question Paper Pattern**	QP Pattern is incorporated in all the courses.

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	BoS 4.8	Vision, Mission, POs and PSOs of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented. **Resolution 4.8: Resolved to approve the Vision, Mission, POs and PSOs of School of ECE**	SoECE staff aligned to Vision, Mission, POs and PSOs .
	BoS 4.9	Any other subject with the permission of the Chair Nil.	
		Resolution: 5.3 Resolved to confirm the action taken report on the minutes of its 4th BoS meeting held on 7th April 2018. The BoS members appreciated the new initiatives taken by SoECE	
BoS 5.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2019-23) b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2019-23) c) Scheme approval of III to VIII Semester (2018-22) d) Syllabus approval of III to VIII Semester (2018-22) e) Scheme approval of V to VIII Semester (2017-21) f) Syllabus approval of V to VIII Semester (2017-21) g) Scheme approval of VII and VIII Semester (2016-20) h) Syllabus approval of V and VIII Semester (2016-20) i) Scheme approval: Scheme 2018-22 in Minor Program j) Scheme approval: Scheme 2017-21 in Minor Program k) Syllabus approval: Scheme 2017-21 in Minor Program **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1:*** New courses added: OOPS using C++, Biosensor ***Action Item No.2:***Revised courses : CMOS VLSI Circuits, Internet of Things, Information Theory and coding and Signals and System **Resolution 5.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication:** **a) Scheme approval of I to VIII Semester (2019-23)** **b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2019-23)** **c) Scheme approval of III to VIII Semester (2018-22)** **d) Syllabus approval of III to VIII Semester (2018-22)** **e) Scheme approval of V to VIII Semester (2017-21)** **f) Syllabus approval of V to VIII Semester (2017-21)** **g) Scheme approval of VII and VIII Semester (2016-20)** **h) Syllabus approval of V and VIII Semester (2016-20)** **i) Scheme approval: Scheme 2018-22 in Minor Program** **j) Scheme approval: Scheme 2017-21 in Minor Program**	
BoS 5.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2019-21) b) Syllabus approval of I/II Semester (2019-21) c) Modification of Scheme of III/IV Semester (2018-20)		

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	d) Syllabus approval of III/IV Semester (2018-20) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication **Resolution 5.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics subjected to implementation of action points listed above.** **a) Scheme approval of I to IV Semester (2019-21)** **b) Syllabus approval of I/II Semester (2019-21)** **c) Modification of Scheme of III/IV Semester (2018-20)** **d) Syllabus approval of III/IV Semester (2018-20)**
BoS 5.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2019-21) b) Syllabus approval of I/II Semester (2019-21) c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus approval of III/IV Semester (2018-20) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication 2. AUTOSAR and Infotainment **Resolution 5.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in in VLSI Design and Embedded Systems subjected to implementation of action points listed above.** **a) Scheme approval of I to IV Semester (2019-21)** **b) Syllabus approval of I/II Semester (2019-21)** **c) Modification of Scheme of III/IV Semester (2018-20)** **d) Syllabus approval of III/IV Semester (2018-20)**
BoS 5.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping were presented.
BoS 5.8	Vision, Mission, POs, PSOs, CAM and PAM of School of ECE **Discussion:** The Vision, Mission, POs, PSOs, CAM and PAM of School of ECE were presented.
BoS 5.9	Any other subject with the permission of the Chair Nil.

The Chairperson thanked all the members for the fantastic contributions

Dr.Nalini C Iyer
Chairperson, BoS, SoECE

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Annexure 5.1

Discussion Item
Employers Feedback: • Able to generate a diverse set of alternative design solutions for the given application. • Enhance ability to identify and formulate problem in designing electronic system for real world applications. • Enhance basic programming skills, to apply and realize real world problems. **Teachers Feedback (Pre-BoS MoM):** • To focus on latest technological trends and development. • Formulation of application oriented examples • Focus on problem solving using programming skills and use of online platform. **Students Feedback:** • Focus on real time applications. • Hands on using EDA tools with Integrated Development Environment (IDEs). **Alumni Feedback:** • Industry Specific Skills for employability. • Depth of programming and analysis.

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Annexure 5.4

Discussion Item	Course
BE (ECE)	
1. Integrated theory and laboratory approach is adopted to bridge the gap between understanding theoretical concepts and realiasing the same using EDA Tools with separate credits for theory and labs.	CMOS-19EECC301 Revised- Delivery
2. A course on Object Oriented Programming to aid the students for heterogeneous computing in real time context is introduced using C++.	OOPS using C++-19EECE302 Added- New course
3. To emphasis the basic principles of bio sensing in terms of photonic/ optical responses and demonstrate the same using simulation and modelling tools, a course on biosensor is introduced with experiential learning.	Biosensor-19EECE416 Added-New course
4. Network of physical objects that are embedded with sensors, software, and other communication protocols for connecting and exchanging data with other devices and systems over the internet is introduced in the course with separate credits for course project.	Internet of things-19EECE401 Revised- Delivery
5. To introduce the principles and applications of information theory with coding techniques for performance analysis of communication channel, modelling and simulation using MATLAB/Simulink followed by a course project is introduced with separate credits for course project.	Information Theory and coding-19EECE402 Revised- Delivery
6. Context based learning for the most fundamental course in communication domain is introduced in the course Signals and Systems through Co-teaching. Mathematical concepts are mapped with physical interpretation of signal processing towards better learning .	Signals and Systems19EECC202 Revised- Delivery
M.Tech Digital Electronics	
1.Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment	Automotive Electronics and Communication-19EDEC701, Added- New course
2.Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment .	AUTOSAR and Infotainment-19EDEE702 Added- New course
3. IoT- A unique technology transition that is impacting human lives and will have huge implications for business of logistics.	Internet of Things-19EDEE703 Added- New course
M.Tech VLSI Design and Embedded Systems	
1. Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment .	Automotive Electronics and Communication-19EVEC701 Added- New course
2. Electronics and technology advances are changing the automotive industry forcing engineers to acquire new skills in connectivity, electrification and infotainment .	AUTOSAR and Infotainment-19EVEE707 Added- New course

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KLE Technological University

Creating Value

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Action Taken Report

5th Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

13th April 2019

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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The following are the action items proposed during 5th Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 13th April 2019. The corresponding actions taken are also listed below.

Item No	Description	Action Taken
BoS 5.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 5.1)** **Resolution 4.1: The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.**	Noted
BoS 5.2	To read and confirm the minutes of 4th BoS meeting held on 7th April 2018 **Resolution 4.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 5.3	To confirm the action taken report on the minutes of the previous meeting held on 7th April 2018 **Resolution 4.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 7th April 2018 and suggestions were implemented.**	Noted
BoS 5.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. 1. Scheme of I to VIII Semester (2019-23) Batch 2. Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2019-23) Batch 3. Scheme of III to VIII Semester (2018-22) Batch 4. Syllabus of III to VIII Semester (2018-22) Batch 5. Scheme of V to VIII Semester (2017-21) Batch 6. Syllabus of V to VIII Semester (2017-21) Batch 7. Scheme of VII and VIII Semester (2016-20) Batch 8. Syllabus of VIII Semester (2016-20) Batch 9. Scheme for Minor program in electronics for (2018-22) Batch 10. Scheme for Minor program in electronics for (2017-21) Batch 11. Scheme for Minor program in electronics for (2017-21) Batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 5.4*** ***Action Item No.1: Suggested new elective courses:*** *with Industry Collaboration for design and delivery* 1. CMOS ASIC design 2. Physical design analog 3. Introduction to deep learning ***Action Item No.2: Integrated approach with hands on:*** *Revised courses* 1. CMOS VLSI Circuits, 2. Internet of Things, 3. Information Theory and coding 4. Signals and System **Resolution 5.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication subject to implementation of action points listed above:**	The BoS members noted the progress of the School and recommended action items and timeline. ***Action Item No.1: Suggested new elective courses:*** *with Industry Collaboration for design and delivery* ***ATR:*** *Elective courses (3) are introduced in in verticals (identified by SoECE) VLSI, Embedded and Communication Systems in collaboration with Industry in respective domain.* *Specialized Courses in VLSI domain, one of the vertical of SoECE, introduced are* ***CMOS ASIC Design*** *and* ***Physical design analog*** *in collaboration with Sifive Bangalore and, Sankalp semiconductors Pvt. Ltd, Hubli respectively with focus on project based learning.* To gain complete chip design flow knowledge of *CMOS ASIC design* course with hands-on intensive covers and explore complete digital design flow of programmable ASIC through VLSI EDA tools. A course in the domain of analog VLSI to enhance teaching learning in Analog circuit design and layout, in turn build upon competency through mini minor and capstone projects. *Course on* ***Deep learning*** *is introduced in interaction with SRIB, Bangalore. with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems.*

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	1. **Scheme of I to VIII Semester (2019-23) Batch** 2. **Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams for (2019-23) Batch** 3. **Scheme of III to VIII Semester (2018-22) Batch** 4. **Syllabus of III to VIII Semester (2018-22) Batch** 5. **Scheme of V to VIII Semester (2017-21) Batch** 6. **Syllabus of V to VIII Semester (2017-21) Batch** 7. **Scheme of VII and VIII Semester (2016-20) Batch** 8. **Syllabus of V and VIII Semester (2016-20) Batch** 9. **Scheme for Minor program in electronics for (2018-22) Batch** 10. **Scheme for Minor program in electronics for (2017-21) Batch** 11. **Modification of Scheme of VII and VIII Semester (2015-19)** 12. **Syllabus approval of VII and VIII Semester (2015-19)** 13. **Scheme for Minor program in electronics for (2017-21) Batch** 14. **Scheme for Minor program in electronics for (2016-20) Batch** 15. **Syllabus for Minor program in electronics for (2016-20) Batch**	*Changes are made according to the suggestions and will be presented during the next BoS.* ***Action Item No.2: Integrated approach with hands on:*** *Revised courses* ***ATR:*** *Integrated theory and lab approach is adapted to bridge the gap between understanding theoretical and realization the same with programming using EDA Tools and in the course **CMOS VLSI circuits** with separate credit structure* *Course on **Internet of Things (IoT)** is introduced in interaction with Bosch, Bangalore. Focusing on hands on with separate credits for course project.* *An elective course on **Information Theory and coding** also focuses on hands on with various coding techniques for performance analysis of communication channel, modelling and simulation using MATLAB/Simulink followed by a course project with separate credits for course project.* *Context based learning for the most fundamental course in communication domain **Signals and Systems** is introduced through Co-teaching with hands on for mapping Mathematical concepts with physical interpretation of signal processing towards better learning .*
BoS 5.5	To consider the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2019-21) Batch b) Syllabus of I/II Semester (2019-21) Batch c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus of III/IV Semester (2018-20) Batch **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *A course on **Automotive electronics and Communication** is introduced with the focus on industry specific model based design approach and necessary communication protocols for inter and intra vehicular communication in collaboration with Bosch Bangalore.*

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	Resolution 5.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics subjected to implementation of action points listed above. **a) Scheme of I to IV Semester (2019-21) Batch** **b) Syllabus of I/II Semester (2019-21) Batch** **c) Modification of Scheme of III/IV Semester (2018-20) Batch** **d) Syllabus of III/IV Semester (2018-20) Batch**	
BoS 5.6	To consider the Schemes and Syllabi of the postgraduate program M. Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme of I to IV Semester (2019-21) Batch b) Syllabus of I/II Semester (2019-21) Batch c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus of III/IV Semester (2018-20) Batch **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication 2. AUTOSAR and Infotainment **Resolution 5.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in in VLSI Design and Embedded Systems subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2019-21) Batch** **b) Syllabus of I/II Semester (2019-21) Batch** **c) Modification of Scheme of III/IV Semester (2018-20) Batch** **d) Syllabus of III/IV Semester (2018-20) Batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *A course on **Automotive electronics and Communication** is introduced with the focus on industry specific model based design approach and necessary communication protocols for inter and intra vehicular communication in collaboration with Bosch Bangalore.* *A standardized interface for software components in the application layer for building applications including infotainment to support the vehicle functions is introduced in **AUTOSAR and Infotainment** in collaboration with Bosch, Bangalore.*
BoS 5.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.	QP Pattern is incorporated in all the courses.
BoS 5.8	Vision, Mission, POs, PSOs of School of ECE and CAM , PAM of 2015-19 **Discussion:** The Vision, Mission, POs, PSOs and CAM, PAM of 2015-19 of School of ECE were presented.	SoECE staff aligned to Vision, Mission, POs and PSOs .
BoS 5.9	Any other subject with the permission of the Chair Nil.	

Dr.Nalini C Iyer
Chairperson, BoS, SoECE

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KLE Technological University

Creating Value
Leveraging Knowledge

Minutes

6th Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

30th May 2020

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 30th May 2020 at 10:30 am in MS Teams.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Nalini C.Iyer	Head of School, SoECE	Chairperson
2.	Dr. R M Bankar	Professor, SoECE	Member
3.	Dr. Uma Mudengudi	Professor, SoECE	Member
4.	Dr. Priyatamkumar	Professor, SoECE	Member
5.	Dr. Saroja S	Professor, SoECE	Member
6.	Dr. Ujwala Patil	Associate Professor, SoECE	Member
7.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
8.	Dr.Mahadevprasanna	Professor, Department of EC,IIT Dharwad	Member
9.	Dr. Chetan Parekh	Professor, Department of EC,IIIT Bangalore	Member
10.	Mr. Praveen B P	Samsung India, Bangalore	Member
11.	Mr. Gurumurthy A	RBEI, Bangalore	Member
12.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductor	Member
13.	Dr. Sujata S Kotabagi	Professor, SoECE	Member
14.	Dr. R B Shettar	Professor, SoECE	Member
15.	Prof. Suneeta V B	Professor, SoECE	
16.	Prof. P. C. Nissimgoudar	Associate Professor, SoECE	
17.	Prof. R. M. Shet	Assistant Professor, SoECE	
18.	1. UG: Deepti H 2. UG: Aditya O 3. PG1 :Mandakini 4. PG2: Gangotri 5. PhD: Suhas Shirol		Student Members

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Agenda

Sl No	Particulars	Page No.
6.1	To welcome the BoS Members and present department achievements & initiatives	
6.2	To read and confirm the minutes of 5th BoS meeting held on 13th April 2019	
6.3	To confirm the action taken report on the minutes of the previous meeting held on 13th April 2019	
6.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2020-24) b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2020-24) c) Scheme approval of III to VIII Semester (2019-23) d) Syllabus approval of III to VIII Semester (2019-23) e) Scheme approval of V to VIII Semester (2018-22) f) Syllabus approval of V to VIII Semester (2018-22) g) Scheme approval of VII and VIII Semester (2017-21) h) Syllabus approval of V and VIII Semester (2017-21) i) Scheme approval: Scheme 2019-23 in Minor Program j) Scheme approval: Scheme 2018-22 in Minor Program k) Syllabus approval: Scheme 2018-22 in Minor Program	
6.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2020-22) b) Syllabus approval of I/II Semester (2020-22) c) Modification of Scheme of III/IV Semester (2019-21) d) Syllabus approval of III/IV Semester (2019-21)	
6.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design & Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2020-22) b) Syllabus approval of I/II Semester (2020-22) c) Modification of Scheme of III/IV Semester (2019-21) d) Syllabus approval of III/IV Semester (2019-21)	
6.7	Question Paper review and Discussion on attainment of POs and PSOs	
6.8	Vision, Mission, POs, PSOs of School of ECE and CAM and PAM	
6.9	Any other matter for discussion with the permission of the chair	

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BoS 6.1	To welcome the BoS Members and present department achievements & initiatives

Resolution 5.1: The BoS members appreciated the initiatives of SoECE and lauded its achievements.

BoS 6.2	To read and confirm the minutes of 5th BoS meeting held on 13th April 2019

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi, which was held on 13th April 2019 at 10:30 am at the Senate Hall of the University.

The following members were present.

BoS 5.2	To read and confirm the minutes of 5th BoS meeting held on 13th April 2019

The following are the minutes of the Board of Studies meeting of SoECE, KLE Technological University, Hubballi, which was held on 13th April 2019 at 10:30 am at the Senate Hall of the University.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Nalini C.Iyer	Head of School, SoECE	Chairperson
2.	Dr. R M Bankar	Professor, SoECE	Member
3.	Dr. Uma Mudengudi	Professor, SoECE	Member
4.	Dr. Priyatamkumar	Professor, SoECE	Member
5.	Dr. Saroja S	Professor, SoECE	Member
6.	Prof. Ujwala Patil	Associate Professor, SoECE	Member
7.	Dr. D. Manjunath	Professor, Department of EC,IIT Bombay	Member
8.	Dr. Chetan Parekh	Professor, Department of EC,IIIT Bangalore	Member
9.	Mr. Praveen B P	Samsung India, Bangalore	Member
10.	Mrs. Padmini Navalgund	RBEI, Bangalore	Member
11.	Mr. Sumit Bhat	Design Lead, Sankalp Semiconductor	Member
12.	Mr. Shivakumar Turmari	Tessolve Semiconductors, Bangalore	Member
13.	Dr. Sujata S Kotabagi	Professor, SoECE	Member
14.	Dr. R B Shettar	Professor, SoECE	Member
15.	Prof. Suneeta V B	Professor, SoECE	
16.	Prof. P. C. Nissimgoudar	Associate Professor, SoECE	
17.	Prof. R. M. Shet	Assistant Professor, SoECE	
18.	UG: Pranav K UG: Niveditha J PG1 :Vijaylakshmi PG2: Saiarpita PhD: Suhas Shirol		Student Members

Item No	Description
BoS 5.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 6.1)** **Resolution 5.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.
BoS 5.2	To read and confirm the minutes of 5th BoS meeting held on 13th April 2019 **Resolution 5.2: Minutes of the last meeting were read and confirmed by BoS.**
BoS 5.3	To confirm the action taken report on the minutes of the previous meeting held on 13th April 2019

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	Resolution 5.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 13th April 2019 and suggestions were implemented.
BoS 5.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. 1. Scheme of I to VIII Semester (2019-23) Batch 2. Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2019-23) Batch 3. Scheme of III to VIII Semester (2018-22) Batch 4. Syllabus of III to VIII Semester (2018-22) Batch 5. Scheme of V to VIII Semester (2017-21) Batch 6. Syllabus of V to VIII Semester (2017-21) Batch 7. Scheme of VII and VIII Semester (2016-20) Batch 8. Syllabus of VIII Semester (2016-20) Batch 9. Scheme for Minor program in electronics for (2018-22) Batch 10. Scheme for Minor program in electronics for (2017-21) Batch 11. Scheme for Minor program in electronics for (2017-21) Batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 6.4*** ***Action Item No.1: Suggested new elective courses:*** *with Industry Collaboration for design and delivery* 1. CMOS ASIC design 2. Physical design analog 3. Introduction to deep learning ***Action Item No.2: Integrated approach with hands on:*** *Revised courses* 1. CMOS VLSI Circuits, 2. Internet of Things, 3. Information Theory and coding 4. Signals and System **Resolution 5.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication subject to implementation of action points listed above:** **1. Scheme of I to VIII Semester (2019-23) Batch** **2. Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams for (2019-23) Batch** **3. Scheme of III to VIII Semester (2018-22) Batch** **4. Syllabus of III to VIII Semester (2018-22) Batch** **5. Scheme of V to VIII Semester (2017-21) Batch** **6. Syllabus of V to VIII Semester (2017-21) Batch** **7. Scheme of VII and VIII Semester (2016-20) Batch** **8. Syllabus of V and VIII Semester (2016-20) Batch** **9. Scheme for Minor program in electronics for (2018-22) Batch** **10. Scheme for Minor program in electronics for (2017-21) Batch** **11. Modification of Scheme of VII and VIII Semester (2015-19)** **12. Syllabus approval of VII and VIII Semester (2015-19)** **13. Scheme for Minor program in electronics for (2017-21) Batch** **14. Scheme for Minor program in electronics for (2016-20) Batch** **15. Syllabus for Minor program in electronics for (2016-20) Batch**

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BoS 5.5	To consider the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2019-21) Batch b) Syllabus of I/II Semester (2019-21) Batch c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus of III/IV Semester (2018-20) Batch **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication **Resolution 5.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2019-21) Batch** **b) Syllabus of I/II Semester (2019-21) Batch** **c) Modification of Scheme of III/IV Semester (2018-20) Batch** **d) Syllabus of III/IV Semester (2018-20) Batch**
BoS 5.6	To consider the Schemes and Syllabi of the postgraduate program M. Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme of I to IV Semester (2019-21) Batch b) Syllabus of I/II Semester (2019-21) Batch c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus of III/IV Semester (2018-20) Batch **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication 2. AUTOSAR and Infotainment **Resolution 5.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in in VLSI Design and Embedded Systems subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2019-21) Batch** **b) Syllabus of I/II Semester (2019-21) Batch** **c) Modification of Scheme of III/IV Semester (2018-20) Batch** **d) Syllabus of III/IV Semester (2018-20) Batch**
BoS 5.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.
BoS 5.8	Vision, Mission, POs, PSOs of School of ECE and CAM , PAM of 2015-19 **Discussion:** The Vision, Mission, POs, PSOs and CAM, PAM of 2015-19 of School of ECE were presented.
BoS 5.9	Any other subject with the permission of the Chair

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	Nil.

Resolution 6.2: Resolved to confirm the minutes of its 5th BoS meeting held on 13th April 2019

BoS 6.3 To confirm the action taken report on the minutes of the previous meeting held on **on 13th April 2019**
Resolution: 5.3 Resolved to confirm the action taken report on the minutes of its 5th BoS meeting held on 13th April 2019. The BoS members appreciated the new initiatives taken by SoECE.

Item No	Description	Action Taken
BoS 5.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 6.1)** **Resolution 5.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 5.2	To read and confirm the minutes of 5th BoS meeting held on 13th April 2019 **Resolution 5.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 5.3	To confirm the action taken report on the minutes of the previous meeting held on 13th April 2019 **Resolution 5.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 13th April 2019 and suggestions were implemented.**	Noted
BoS 5.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. 1. Scheme of I to VIII Semester (2019-23) Batch 2. Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2019-23) Batch 3. Scheme of III to VIII Semester (2018-22) Batch 4. Syllabus of III to VIII Semester (2018-22) Batch 5. Scheme of V to VIII Semester (2017-21) Batch 6. Syllabus of V to VIII Semester (2017-21) Batch 7. Scheme of VII and VIII Semester (2016-20) Batch 8. Syllabus of VIII Semester (2016-20) Batch 9. Scheme for Minor program in electronics for (2018-22) Batch 10. Scheme for Minor program in electronics for (2017-21) Batch 11. Scheme for Minor program in electronics for (2017-21) Batch **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 6.4***	The BoS members noted the progress of the School and recommended action items and timeline. ***Action Item No.1: Suggested new elective courses:*** *with Industry Collaboration for design and delivery* ***ATR:*** *Elective courses (3) are introduced in in verticals (identified by SoECE) VLSI, Embedded and Communication Systems in collaboration with Industry in respective domain.* *Specialized Courses in VLSI domain, one of the vertical of SoECE, introduced are* ***CMOS ASIC Design*** *and* ***Physical design analog*** *in collaboration with Sifive Bangalore and, Sankalp semiconductors Pvt. Ltd, Hubli respectively with focus on project based learning.* To gain complete chip design flow knowledge of *CMOS ASIC design* course with hands-on intensive covers

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		Action Item No.1: Suggested new elective courses: *with Industry Collaboration for design and delivery* 1. CMOS ASIC design 2. Physical design analog 3. Introduction to deep learning ***Action Item No.2: Integrated approach with hands on:*** *Revised courses* 1. CMOS VLSI Circuits, 2. Internet of Things, 3. Information Theory and coding 4. Signals and System **Resolution 5.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication subject to implementation of action points listed above:** **1. Scheme of I to VIII Semester (2019-23) Batch** **2. Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams for (2019-23) Batch** **3. Scheme of III to VIII Semester (2018-22) Batch** **4. Syllabus of III to VIII Semester (2018-22) Batch** **5. Scheme of V to VIII Semester (2017-21) Batch** **6. Syllabus of V to VIII Semester (2017-21) Batch** **7. Scheme of VII and VIII Semester (2016-20) Batch** **8. Syllabus of V and VIII Semester (2016-20) Batch** **9. Scheme for Minor program in electronics for (2018-22) Batch** **10. Scheme for Minor program in electronics for (2017-21) Batch** **11. Modification of Scheme of VII and VIII Semester (2015-19)** **12. Syllabus approval of VII and VIII Semester (2015-19)** **13. Scheme for Minor program in electronics for (2017-21) Batch** **14. Scheme for Minor program in electronics for (2016-20) Batch** **15. Syllabus for Minor program in electronics for (2016-20) Batch**	and explore complete digital design flow of programmable ASIC through VLSI EDA tools. A course in the domain of analog VLSI to enhance teaching learning in Analog circuit design and layout, in turn build upon competency through mini minor and capstone projects. *Course on **Deep learning** is introduced in interaction with SRIB, Bangalore. with Project-based learning which involves dynamic classroom approach in which students acquire a deeper knowledge through active investigation of real-world challenges and problems. Changes are made according to the suggestions and will be presented during the next BoS.* ***Action Item No.2: Integrated approach with hands on:*** *Revised courses* ***ATR:*** *Integrated theory and lab approach is adapted to bridge the gap between understanding theoretical and realization the same with programming using EDA Tools and in the course **CMOS VLSI circuits** with separate credit structure* *Course on **Internet of Things (IoT)** is introduced in interaction with Bosch, Bangalore. Focusing on hands on* with separate credits for course project. *An elective course on **Information Theory and coding** also focuses on hands on with various coding techniques for performance analysis of communication channel, modelling and simulation using MATLAB/Simulink followed by a course project with separate credits for course project.* *Context based learning for the most fundamental course in communication domain **Signals and Systems** is introduced through Co-teaching with hands on for mapping Mathematical concepts with physical interpretation of signal processing towards better*

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			learning .
	BoS 5.5	To consider the Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2019-21) Batch b) Syllabus of I/II Semester (2019-21) Batch c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus of III/IV Semester (2018-20) Batch **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication **Resolution 5.5: Resolved to approve the following Schemes and Syllabi of the postgraduate program M. Tech in Digital Electronics subjected to implementation of action points listed above.** **a) Scheme of I to IV Semester (2019-21) Batch** **b) Syllabus of I/II Semester (2019-21) Batch** **c) Modification of Scheme of III/IV Semester (2018-20) Batch** **d) Syllabus of III/IV Semester (2018-20) Batch**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *A course on **Automotive electronics and Communication** is introduced with the focus on industry specific model based design approach and necessary communication protocols for inter and intra vehicular communication in collaboration with Bosch Bangalore.*
	BoS 5.6	To consider the Schemes and Syllabi of the postgraduate program M. Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme of I to IV Semester (2019-21) Batch b) Syllabus of I/II Semester (2019-21) Batch c) Modification of Scheme of III/IV Semester (2018-20) d) Syllabus of III/IV Semester (2018-20) Batch **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 13th April 2019. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* 1. Automotive electronics and Communication 2. AUTOSAR and Infotainment **Resolution 5.6: Resolved to the Schemes and Syllabi of the postgraduate program M. Tech in in VLSI Design and Embedded Systems subjected to**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core courses*** *to strengthen basic concepts and programming* ***ATR:*** *A course on **Automotive electronics and Communication** is introduced with the focus on industry specific model based design approach and necessary communication protocols for inter and intra vehicular communication in collaboration with Bosch Bangalore.* *A standardized interface for software components in the application layer for building applications including infotainment to support the vehicle functions is introduced in **AUTOSAR and Infotainment** in collaboration with Bosch, Bangalore.*

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		implementation of action points listed above. **a) Scheme of I to IV Semester (2019-21) Batch** **b) Syllabus of I/II Semester (2019-21) Batch** **c) Modification of Scheme of III/IV Semester (2018-20) Batch** **d) Syllabus of III/IV Semester (2018-20) Batch**	
	BoS 5.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.	QP Pattern is incorporated in all the courses.
	BoS 5.8	Vision, Mission, POs, PSOs of School of ECE and CAM , PAM of 2015-19 **Discussion:** The Vision, Mission, POs, PSOs and CAM, PAM of 2015-19 of School of ECE were presented.	SoECE staff aligned to Vision, Mission, POs and PSOs .
	BoS 5.9	Any other subject with the permission of the Chair Nil.	
	Resolution: 6.3 Resolved to confirm the action taken report on the minutes of its 5th BoS meeting held on 13th April 2019. The BoS members appreciated the new initiatives taken by SoECE		
BoS 6.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme approval of I to VIII Semester (2020-24) b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2020-24) c) Scheme approval of III to VIII Semester (2019-23) d) Syllabus approval of III to VIII Semester (2019-23) e) Scheme approval of V to VIII Semester (2018-22) f) Syllabus approval of V to VIII Semester (2018-22) g) Scheme approval of VII and VIII Semester (2017-21) h) Syllabus approval of V and VIII Semester (2017-21) i) Scheme approval: Scheme 2019-23 in Minor Program j) Scheme approval: Scheme 2018-22 in Minor Program k) Syllabus approval: Scheme 2018-22 in Minor Program l) Scheme approval :2020-24 in Bachelor of Electronics Engineering (Industrial Integrated) m) Syllabus approval of I / II /III trimester (2020-24) in Bachelor of Electronics Engineering (Industrial Integrated) **Discussion**: Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 30th May 2020. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. ***Action Item No.1:*** New courses added: Senior Design Project ***Action Item No.2:***Revised courses : Project Work , AUTOSAR **Resolution 6.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication:** **a) Scheme approval of I to VIII Semester (2020-24)** **b) Syllabus approval of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2020-24)** **c) Scheme approval of III to VIII Semester (2019-23)** **d) Syllabus approval of III to VIII Semester (2019-23)** **e) Scheme approval of V to VIII Semester (2018-22)**	

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	f) Syllabus approval of V to VIII Semester (2018-22) **g) Scheme approval of VII and VIII Semester (2017-21)** **h) Syllabus approval of V and VIII Semester (2017-21)** **i) Scheme approval: Scheme 2019-23 in Minor Program** **j) Scheme approval: Scheme 2018-22 in Minor Program** **k) Syllabus approval of 2018-22 in Minor Program** **l) Scheme approval :2020-24 in Bachelor of Electronics Engineering (Industrial Integrated)** **m) Syllabus approval of I / II /III trimester (2020-24) in Bachelor of Electronics Engineering (Industrial Integrated)**
BoS 6.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme approval of I to IV Semester (2020-22) b) Syllabus approval of I/II Semester (2020-22) *c)* Modification of Scheme of III/IV Semester (2019-21) *d)* Syllabus approval of III/IV Semester (2019-21) **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 30th May 2020. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. **Resolution 6.5: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics:** **a) Scheme approval of I to IV Semester (2020-22)** **b) Syllabus approval of I/II Semester (2020-22)** ***c)* Modification of Scheme of III/IV Semester (2019-21)** ***d)* Syllabus approval of III/IV Semester (2019-21)**
BoS 6.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme approval of I to IV Semester (2020-22) b) Syllabus approval of I/II Semester (2020-22) *c)* Modification of Scheme of III/IV Semester (2019-21) *d)* Syllabus approval of III/IV Semester (2019-21) **Resolution 6.6: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in in VLSI Design and Embedded Systems** **a) Scheme approval of I to IV Semester (2020-22)** **b) Syllabus approval of I/II Semester (2020-22)** ***c)* Modification of Scheme of III/IV Semester (2019-21)** ***d)* Syllabus approval of III/IV Semester (2019-21)**
BoS 6.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping were presented.
BoS 6.8	Vision, Mission, POs , PSOs, CAM and PAM of School of ECE **Discussion:** The Vision, Mission, POs and PSOs of School of ECE were presented.
BoS 6.9	Any other subject with the permission of the Chair Nil.

The Chairperson thanked all the members for the valuable contributions

Chairperson, BoS, SoECE
Dr. Nalini C Iyer

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Annexure 6.1

Discussion Item
Employers Feedback: • Students should be able to develop engineering solutions in societal and environmental contexts. • Ability for effective communication, problem solving, conflict resolution and leadership skills. • Enhance ability to apply design principles in the development of hardware and software systems of varying complexity, using state of art tools for the development of VLSI/Embedded/Communication systems. **Teachers Feedback (Pre-BoS MoM):** • Formulation of application oriented examples. • Focus on problem solving using programming skills and use of online platform. **Students Feedback:** • To focus on latest technological trends and development. • Formulation of application oriented examples. **Alumni Feedback:** Recommended for co-delivery by industry experts.

Annexure 6.4

Discussion Item	Course
BE (ECE)	
1. Theme based project with strong emphasis on design aspects in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced.	Senior Design Project-20EECW401 Added-New course
2. Industry/Research/Academic project with more emphasis on design aspects and real time constraints in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced.	Project Work-20EECW402 Revised- Delivery
3. A standardized interface for software components in the application layer and application software components for building applications to support the vehicle functions is introduced. Course prepares students to be industry ready with hands on using standard tools and industry mentored projects.	Autosar-20EECE406 Revised- Delivery
M.Tech Digital Electronics	
NIL	NIL
M.Tech VLSI Design and Embedded Systems	
NIL	NIL

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KLE Technological University

Creating Value
Leveraging Knowledge

Action Taken Report

6th Board of Studies Meeting

of

School of Electronics and Communication Engineering

Hubballi, Karnataka

30th May 2020

KLE Technological University

(Established under Karnataka Act No.22, 2013)

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The following are the action items proposed during 6rdBoard of Studies meeting of SoECE, KLE Technological University, Hubballi which was held on 30thMay 2020. The corresponding actions taken are also listed below.

Item No	Description	Action Taken
BoS 6.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders **(Annexure 6.1)** **Resolution 5.1:** The BoS members appreciated the work done towards recognition of KLE Technological University as a State private University effective from 2015.	Noted
BoS 6.2	To read and confirm the minutes of 5th BoS meeting held on 13th April 2019 **Resolution 5.2: Minutes of the last meeting were read and confirmed by BoS.**	Noted
BoS 6.3	To confirm the action taken report on the minutes of the previous meeting held on 13th April 2019 **Resolution 5.3: BoS confirmed the action taken report on the minutes of the previous meeting held on 13th April 2019 and suggestions were implemented.**	Noted
BoS 6.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication and approve the same. a) Scheme of I to VIII Semester (2020-24) batch. b) Syllabus of I / II Semester, Basic Electronics course for Mechanical and Electrical streams for (2020-24) batch. c) Scheme of III to VIII Semester (2019-23) batch. d) Syllabus of III to VIII Semester (2019-23) batch. e) Scheme of V to VIII Semester (2018-22) batch. f) Syllabus of V to VIII Semester (2018-22) batch. g) Scheme of VII and VIII Semester (2017-21) batch. h) Syllabus of V and VIII Semester (2017-21) batch. i) Scheme 2019-23 in Minor Program j) Scheme 2018-22 in Minor Program k) Scheme 2018-22 in Minor Program l) Scheme approval :2020-24 in Bachelor of Electronics Engineering (Industrial Integrated) m) Syllabus of I / II /III trimester (2020-24)in Bachelor of Electronics Engineering (Industrial Integrated) batch. **Discussion**: Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 30th May 2020. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. The details of discussion are in ***Annexure 6.4.*** ***Action Item No.1: Suggested new core course*** *with strong focus on design aspects.* 1) Senior Design Project ***Action Item No.2: Suggested course*** *with Project based learning emphasis* 1) Project Work 2) AUTOSAR **Resolution 6.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Electronics & Communication subject to implementation of action points listed above:** **a) Scheme of I to VIII Semester (2020-24) batch.**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***Action Item No.1: Suggested new core course*** *focusing on project based learning* **ATR:** Theme based Research/Academic **senior design project** with strong emphasis on design aspects in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced. ***Action Item No.2: Suggested course*** *with Project based learning emphasis* ***ATR:*** • Industry/Research/Academic **project** with more emphasis on design aspects and real time constraints in the domain of VLSI, Communication and Embedded with hardware and software integration for the desired functionality is introduced. • A standardized interface for software components in the application layer and application software components for building applications to support the vehicle functions is introduced. **Autosar** prepares students to be industry ready with hands on using standard tools and industry mentored projects.

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	b) Syllabus of I / II Semester, Basic Electronics for Mechanical and Electrical stream course (2020-24) batch. **c) Scheme of III to VIII Semester (2019-23) batch.** **d) Syllabus of III to VIII Semester (2019-23) batch.** **e) Scheme of V to VIII Semester (2018-22) batch.** **f) Syllabus of V to VIII Semester (2018-22) batch.** **g) Scheme of VII and VIII Semester (2017-21) batch.** **h) Syllabus of V and VIII Semester (2017-21) batch.** **i) Scheme 2019-23 in Minor Program** **j) Scheme 2018-22 in Minor Program** **k) Scheme 2018-22 in Minor Program** **l) Scheme approval :2020-24 in Bachelor of Electronics Engineering (Industrial Integrated)** **m) Syllabus of I / II /III trimester (2020-24)in Bachelor of Electronics Engineering (Industrial Integrated) batch.**	
BoS 6.5	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics and approve the same. a) Scheme of I to IV Semester (2020-22) batch. b) Syllabus of I/II Semester (2020-22) batch. *c)* Modification of Scheme of III/IV Semester (2019-21) batch *d)* Syllabus of III/IV Semester (2019-21) batch. **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 30th May 2020. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. **Resolution 6.5: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in Digital Electronics subject to implementation of action points listed above:** **a) Scheme of I to IV Semester (2020-22) batch.** **b) Syllabus of I/II Semester (2020-22) batch.** ***c)* Modification of Scheme of III/IV Semester (2019-21)** ***d)* Syllabus of III/IV Semester (2019-21) batch.**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***ATR:*** *No major changes in scheme or content for 2020-21 and therefore to continue the same courses under the respective scheme*
BoS 6.6	To consider the Schemes and Syllabi of the postgraduate program M.Tech in VLSI Design and Embedded Systems and approve the same. a) Scheme of I to IV Semester (2020-22) batch. b) Syllabus of I/II Semester (2020-22) batch. *c)* Modification of Scheme of III/IV Semester (2019-21) batch. *d)* Syllabus of III/IV Semester (2019-21) batch. **Discussion:** Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 30th May 2020. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting. **Resolution 6.6: Resolved to the Schemes and Syllabi of the postgraduate program M.Tech in in VLSI Design and Embedded**	**The BoS members noted the progress of the School and recommended action items and timeline.** ***ATR:*** *No major changes in scheme or content for 2020-21 and therefore to continue the same courses under the respective scheme*

	Systems subject to implementation of action points listed above: **a) Scheme of I to IV Semester (2020-22) batch.** **b) Syllabus of I/II Semester (2020-22) batch.** ***c)*** **Modification of Scheme of III/IV Semester (2019-21) batch.** ***d)*** **Syllabus of III/IV Semester (2019-21) batch.**	
BoS 6.7	Question Paper review **Discussion:** The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.	QP Pattern is incorporated in all the courses.
BoS 6.8	Vision, Mission, POs, PSOs of School of ECE and CAM , PAM of 2016-20 **Discussion:** The Vision, Mission, POs, PSOs and CAM, PAM of 2016-20of School of ECEwas presented.	SoECE staff aligned to Vision, Mission, POs and PSOs .
BoS 6.9	Any other subject with the permission of the Chair Nil.	

Dr.Nalini C Iyer
Chairperson, BoS, SoECE

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