



**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

Earlier known as  
B. V. B. College of Engineering & Technology

## **School of Computer Science & Engineering**

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### **BOS Meeting Details for the Last Five Years**



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**Minutes**  
**1<sup>st</sup> Board of Studies Meeting**  
**of**  
**School of Computer Science & Engineering**  
Hubballi, Karnataka  
11<sup>th</sup> July 2015

KLE Technological University  
(Established under Karnataka Act No.22, 2013)

**REGISTRAR**  
**KLE Technological University**  
**HUBBALLI-580 031**





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KLE Tech University  
BVBCET Campus, Hubballi –31

The following are the minutes of the Board of Studies meeting of SoCSE, KLE Technological University, Hubballi which was held on 11<sup>th</sup> July 2015 at 10:30 am in the HoD's Chamber of the department.

The following members were present.

#	Name	Designation	Position
1.	Dr. Meena S. M.	Professor & Head of the School/ Department	Chairman
2.	Prof. K.R. Biradar	Professor ,Dean's nominee	Member
3.	Dr. G. H. Joshi	Professor ,Dean's nominee	Member
4.	Dr. V. P. Baligar	Professor,Dean's nominee	Member
5.	Dr. S.G. Totad	Professor,Dean's nominee	Member
6.	Mr. Narayan D. G.	Associate Professor ,Dean's nominee	Member
7.	Dr. Uday Wali	Subject expert from outside the college nominated by the Vice-Chancellor	Member
8.	Dr. Pradeep V. Desai	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member

The following members have sought leave of absence:

Sl No	Name	Designation	Position
1.	Mr. Shashikumar G.	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
2.	Mr. Saurav Mishra	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	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 Computer Science & Engineering and approve the same. a) Scheme approval of I to VIII Semester (2015-19) subject to modifications b) Syllabus approval of I/II semester, Programming in C 2015-19 batch	
1.3	To consider the Schemes and Syllabi of the postgraduate program M.Tech in Computer Science and Engineering and approve the same. a) Scheme approval of I to IV Semester (2015-17) b) Syllabus approval of I and IV Semester (2015-17)	
1.4	Any other subject with the permission of the Chair	
1.5	Vote of Thanks	

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BoS 1.1	Dr. Meena S. M, Head, School of CSE welcomed all the members of the BoS and presented the progress of the School of CSE.
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**Resolution 1.1:** All the BoS members appreciated the work done towards the recognition of KLE Technological University as a State Private University with effective from the academic year 2015.

BoS 1.2	<p>To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science &amp; Engineering and approve the same.</p> <p>a) Scheme approval of I to VIII Semester (2015-19) subject to modifications</p> <p>b) Syllabus approval of I/II semester, Programming in C 2015-19 batch</p> <p>The verticals proposed for the undergraduate program B.E in Computer Science &amp; Engineering 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.</p>
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**Resolution 1.2: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science & Engineering:**

- a) Scheme approval of I to VIII Semester (2015-19) subject to modifications
- b) Syllabus approval of I/II semester, Programming in C 2015-19 batch


BoS 1.3	<p>To consider the Schemes and Syllabi of the postgraduate program M.Tech in CSE and approve the same.</p> <p>a) Scheme approval of I to IV Semester (2015-17)</p> <p>b) Syllabus approval of I and IV Semester (2015-17)</p>
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**Resolution 1.3: Resolved to approve the Schemes and Syllabi of the postgraduate program M.Tech in CSE:**

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

BoS 1.4	Any other subject with the permission of the Chair
	-NIL-

The Chairperson Dr. Meena S. M. thanked all the members for their valuable inputs and suggestions

  
Dr. Meena S.M  
Chairperson, BoS, SoCSE

  
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**Minutes**  
**2<sup>nd</sup> Board of Studies Meeting**  
**of**  
**School of Computer Science and Engineering**  
**Hubballi, Karnataka**  
**18<sup>th</sup> March 2016**

**KLE Technological University**  
**(Established under Karnataka Act No.22, 2013)**

  
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**HUBBALLI-580 031**  




The following are the minutes of the Board of Studies meeting of SoCSE, KLE Technological University, Hubballi which was held on 18<sup>th</sup> March 2016 at 09:00 am at the C-lite Board Room.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Meena S. M.	Professor & Head of the School/ Department	Chairman
2.	Prof. K.R. Biradar	Professor, Dean's nominee	Member
3.	Dr. G. H. Joshi	Professor, Dean's nominee	Member
4.	Dr. Vishwanath P Baligar	Professor, Dean's nominee	Member
5.	Dr. S.G. Totad	Professor, Dean's nominee	Member
6.	Mr. Narayan D. G.	Associate Professor, Dean's nominee	Member
7.	Dr. Uday Wali	Subject expert from outside the college nominated by the Vice-Chancellor	Member
8.	Dr. Pradeep V. Desai	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
9.	Mr. Shashikumar G.	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
10.	Mr. Ram Jakati	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member

#### Agenda

Sl No	Particulars	Page No.
2.1	To welcome the BoS Members and present the department achievements & initiatives	
2.2	To read and confirm the minutes of 1 <sup>st</sup> BoS meeting held on 11 <sup>th</sup> July 2015	
2.3	To confirm the action taken report on the minutes of the previous meeting held on 11 <sup>th</sup> July 2015	
2.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same. a) Scheme approval of I to VIII Semester (2016-20) b) Syllabus approval of I / II Semester, Programming in C course (2016-20) c) Ratification of Scheme of III to VIII Semester (2015-19) d) Syllabus approval of III / IV Semester (2015-19) e) Approval of Minor Program in CSE	
2.5	To consider the Schemes and Syllabi of the postgraduate program in CSE. a) Scheme approval of I to IV Semester (2016-18) b) Syllabus approval of I/II Semester (2016-18)	
2.6	Vision, Mission, POs and PSOs of School of CSE	
2.7	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. <u>(Annexure 2.1)</u>
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**Resolution 2.1:** The BoS members appreciated the initiatives of SoCSE and lauded its achievements.

BoS 2.2	<p>To read and confirm the minutes of 1<sup>st</sup> BoS meeting held on 11th July 2015</p> <p>The following are the minutes of the Board of Studies meeting of SoCSE, KLE Technological University, Hubballi which was held on 11<sup>th</sup> July 2015 at 10:30 am at Clite board room of the University.</p> <p><b>The following members were present.</b></p> <table><tr><th>#</th><th>Name</th><th>Designation</th><th>Position</th></tr><tr><td>1.</td><td>Dr. Meena S. M.</td><td>Professor &amp; Head of the School/ Department</td><td>Chairman</td></tr><tr><td>2.</td><td>Prof. K.R. Biradar</td><td>Professor , Dean's nominee</td><td>Member</td></tr><tr><td>3.</td><td>Dr. G. H. Joshi</td><td>Professor , Dean's nominee</td><td>Member</td></tr><tr><td>4.</td><td>Dr. Vishwanath P Baligar</td><td>Professor Dean's nominee</td><td>Member</td></tr><tr><td>5.</td><td>Dr. S.G. Totad</td><td>Professor Dean's nominee</td><td>Member</td></tr><tr><td>6.</td><td>Mr. Narayan D. G.</td><td>Associate Professor Dean's nominee</td><td>Member</td></tr><tr><td>7.</td><td>Dr. Uday Wali</td><td>Subject expert from outside the college nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>8.</td><td>Dr. Pradeep V. Desai</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr></table> <p>The following members have sought leave of absence:</p> <table><tr><th>Sl No</th><th>Name</th><th>Designation</th><th>Position</th></tr><tr><td>1.</td><td>Mr. Shashikumar G.</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>2.</td><td>Mr. Saurav Mishra</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr></table>	#	Name	Designation	Position	1.	Dr. Meena S. M.	Professor & Head of the School/ Department	Chairman	2.	Prof. K.R. Biradar	Professor , Dean's nominee	Member	3.	Dr. G. H. Joshi	Professor , Dean's nominee	Member	4.	Dr. Vishwanath P Baligar	Professor Dean's nominee	Member	5.	Dr. S.G. Totad	Professor Dean's nominee	Member	6.	Mr. Narayan D. G.	Associate Professor Dean's nominee	Member	7.	Dr. Uday Wali	Subject expert from outside the college nominated by the Vice-Chancellor	Member	8.	Dr. Pradeep V. Desai	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member	Sl No	Name	Designation	Position	1.	Mr. Shashikumar G.	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member	2.	Mr. Saurav Mishra	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
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	<p><b>Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.</b></p> <p><b>Resolution 1.2: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science:</b></p> <p>a) Scheme approval of I to VIII Semester (2015-19) subject to modifications</p> <p>b) Syllabus approval of I/II semester, Programming in C course (2015-19)</p>
BoS 1.3	<p>To consider the Schemes and Syllabi of the postgraduate program in CSE and approve the same.</p> <p>a) Scheme approval of I to IV Semester (2015-17)</p> <p>b) Syllabus approval of I and IV Semester (2015-17)</p> <p><b>Discussion:</b> Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 11<sup>th</sup> July 2015. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting.</p> <p><b>Action Item No.4: Identify industries in focus areas.</b></p> <p><b>Action Item No.5: Identify industries for Internships.</b></p> <p><b>Resolution 1.3: Resolved to approve the Schemes and Syllabi of the postgraduate program in CSE:</b></p> <p>a) Scheme approval of I to IV Semester (2015-17)</p> <p>b) Syllabus approval of I and IV Semester (2015-17)</p>
BoS 1.4	<p>Approval of change of Vision, Mission, POs and PSOs of School of CSE</p> <p><b>Resolution 1.4: Resolved to approve the Vision, Mission, POs and PSOs of School of CSE:</b></p>
BoS 1.5	<p>Any other subject with the permission of the Chair</p> <p>Nil.</p>


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

  
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BoS 2.3	To confirm the action taken report on the minutes of the previous meeting held on 11 <sup>th</sup> July 2015	
Item No	Description	Action Taken
BoS 1.1	To welcome the members of BoS <b>Resolution 1.1:</b> The BoS members appreciated the work done towards recognition of KLE Technological University as a State Private University with effective from 2015.	Noted
BoS 1.2	To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and Engineering and approve the same. a) Scheme approval of I to VIII Semester (2015-19) subject to modifications b) Syllabus approval of I/II semester, Programming in C course(2015-19) <b>Discussion:</b> Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 11 <sup>th</sup> July 2015. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting.  <b>Action Item No.1: Strengthen the verticals by identifying appropriate core courses for the for the UG program B.E.-CSE</b>  <b>Action Item No.2: Identify industry specific electives for the for the UG program B.E.-CSE</b>  <b>Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.</b>  <b>Resolution 1.2: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and Engineering:</b> a) Scheme approval of I to VIII Semester (2015-19) subject to modifications b) Syllabus approval of I/II semester, Programming in C course(2015-19)	<b>The BoS members noted the progress of the School and recommended certain action items and timeline.</b>  <b>Action Item No.1: Strengthen the verticals by identifying appropriate core courses for the for the UG program B.E.-CSE</b> <i>ATR: Identified the core courses for the 3 verticals and will present during next BoS.</i>  <b>Action Item No.2: Identify industry specific electives for the for the UG program B.E.-CSE</b> <i>ATR: Identified the industry specific electives and will present during next BoS.</i>  <b>Action Item No.3: Identify industry experts for co-design and co-delivery of the identified courses.</b> <i>ATR: Discussion with industries from Juniper, Microsoft, Infosys BOSCH and other industries for co-design and delivery of the courses is identified as per Action Item No. 2.</i>
BoS 1.3	To consider the Schemes and Syllabi of the postgraduate program and approve the same. a) Scheme approval of I to IV Semester (2015-17) b) Syllabus approval of I and IV Semester (2015-17)  <b>Discussion:</b> Based on the discussions following action items as agreed upon by everyone were finalized and the same were circulated to all the members on 11 <sup>th</sup> July 2015. Persons responsible for these action items have already initiated the actions, which will be shared in the next BoS meeting.  <b>Action Item No.4: Identify industries in focus areas.</b>  <b>Action Item No.5: Identify industries for Internships.</b>  <b>Resolution 1.3: Resolved to approve the Schemes and Syllabi of the postgraduate program in CSE:</b> a) Scheme approval of I to IV Semester (2015-17) b) Syllabus approval of I and IV Semester (2015-17)	<b>The BoS members noted the progress of the School and recommended certain action items and timeline.</b>  <b>Action Item No.4: Identify industries in focus areas.</b> <i>ATR: Discussion with industries from Infosys, KPIT, Continental, and other industries.</i>  <b>Action Item No.5: Identify industries for Internships.</b> <i>ATR: Identified about 10 industries, and discussions are at initial stage.</i>
BoS 1.4	Approval of change of Vision, Mission, POs and PSOs of School of CSE <b>Resolution 1.5: Resolved to approve the Vision, Mission, POs and PSOs of School of CSE:</b>	SoCSE staff aligned to Vision, Mission, POs and PSOs
BoS 1.5	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 1<sup>st</sup> BoS meeting held on 11<sup>th</sup> July 2015. The BoS members appreciated the new initiatives taken by SoCSE.**

  
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<b>BoS 2.4</b>	<p>To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ol style="list-style-type: none"> <li>Scheme approval of I to VIII Semester (2016-20)</li> <li>Syllabus approval of I / II Semester, Programming in C course (2016-20)</li> <li>Ratification of Scheme of III to VIII Semester (2015-19)</li> <li>Syllabus approval of III / IV Semester (2015-19)</li> <li>Approval of Minor Program in CSE</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> 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 <b>Annexure 2.4</b>.</p> <p><b>Action Item No.1: Suggested to adopt Unix System Programming to implement the OS concepts</b></p> <ol style="list-style-type: none"> <li>OS (17ECSC203)</li> </ol> <p><b>Action Item No.2: Mathematics courses to be co-related with real time engineering examples</b></p> <ol style="list-style-type: none"> <li>Applied Statistics(15EMAB209)</li> </ol> <p><b>Action Item No.3: Enhancing of Programming and algorithmic analysis Skill :</b></p> <ol style="list-style-type: none"> <li>Data structures and algorithms (17ECSC204)</li> <li>Algorithmic Problem Solving (17ECSE309)</li> </ol> <p><b>Action Item No.4: Skill improvement to inculcate implementing change in the requirements during project implementation.</b></p> <ol style="list-style-type: none"> <li>Mini Project (15ECSW301)</li> </ol> <p><b>Action Item No.5: Students need to work on open source project and contribute to GitHub</b></p> <ol style="list-style-type: none"> <li>Machine Learning (17ECSC306)</li> </ol> <p><b>Action Item No.6: PL/SQL and DB security concepts need to be introduced in DBMS course</b></p> <ol style="list-style-type: none"> <li>DBMS (15ECSC208)</li> </ol> <p><b>Action Item No.7: The course contents needs to be relevant with current knowledge and practices in the industry like DCC.</b></p> <ol style="list-style-type: none"> <li>CN (15ECSP302)</li> <li>DCC (17ECSC305)</li> </ol> <p><b>Action Item No.8: Identify the courses for Minor Degree Program for other branches.</b></p> <ol style="list-style-type: none"> <li>Data Structures and Algorithms</li> <li>OOP with Python</li> </ol>
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**Resolution 2.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.**

- Scheme approval of I to VIII Semester (2016-20)
- Syllabus approval of I / II Semester, Programming in C course (2016-20)
- Ratification of Scheme of III to VIII Semester (2015-19)
- Syllabus approval of III / IV Semester (2015-19)
- Approval of Minor Program in CSE

<b>BoS 2.5</b>	<p>To consider the Schemes and Syllabi of the postgraduate program in CSE.</p> <ol style="list-style-type: none"> <li>Scheme approval of I to IV Semester (2016-18)</li> <li>Syllabus approval of I to IV Semester (2016-18)</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. 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 <b>Annexure 2.5</b>.</p> <p><b>Action Item No.8: As per the directions given by the Members of the BoS, the following New Courses are added for the 2016-18 batch. Importance was given to Compiler Design, Network Security, Clouding Computing, Software Testing, Graphics, Parallel Computing, Internet of Things, image and Video Processing and Wireless Networks. Also hands on experience was given through Software Testing Lab and Distributed and Cloud Computing Lab.</b></p> <ol style="list-style-type: none"> <li>Compiler Design 16ECSE705</li> </ol>
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	<ol style="list-style-type: none"> <li>2. Cryptography and Network Security 16ECSE707</li> <li>3. Distributed and Cloud Computing 16ECSC711</li> <li>4. Computer Networks 16ECSC712</li> <li>5. Software Testing 16ECSC713</li> <li>6. Computer Graphics 16ECSE714</li> <li>7. Applied Parallel Computing 16ECSE715</li> <li>8. Internet Of Things 16ECSE716</li> <li>9. Software Testing Lab 16ECSP717</li> <li>10. Distributed and Cloud Computing Lab 16ECSP718</li> <li>11. Data Mining and Business Analytics 16ECSC801</li> <li>12. Image and Video Processing 16ECSE803</li> <li>13. Wireless Networks 16ECSE804</li> </ol>
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**Resolution 2.5: Resolved to approve the Schemes and Syllabi of the postgraduate program subject to implementation of action points listed above:**

- a) Scheme approval of I to IV Semester (2016-18)
- b) Syllabus approval of I to IV Semester (2016-18)

<b>BoS 2.7</b>	Question Paper review
	<b>Discussion:</b> 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**

<b>BoS 2.8</b>	Vision, Mission, POs and PSOs of School of CSE
	<b>Discussion:</b> The Vision, Mission, POs and PSOs of School of CSE were presented.

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

<b>BoS 2.9</b>	Any other matter for discussion with the permission of the chair
	Nil

The Chairperson thanked all the members for the fantastic contributions

Dr. Meena S.M.

Chairperson, BoS, SoCSE

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KLE Technological University  
HUBBALLI-580 031



Annexure 2.1
Discussion Item
<p><b>Feedback from Employee</b></p> <ol style="list-style-type: none"> <li>1. Students need to understand practical application of concepts and more hands on required.</li> <li>2. Enhancement and depth of programming skills.</li> <li>3. Knowledge of problem solving approaches and alternate solutions.</li> <li>4. The project quality and depth to be improved.</li> <li>5. Skill improvement to inculcate implementing change in the requirements during project implementation.</li> <li>6. Students need to work on open source project and contribute to GitHub.</li> </ol> <p><b>Course Feedback:</b></p> <ol style="list-style-type: none"> <li>1. The course contents needs to be relevant with current knowledge and practices in the industry like DCC.</li> <li>2. Theoretical courses like DMS, OS need to be connected with real time examples.</li> </ol> <p><b>Feedback from Faculty --- Pre BoS MOM</b></p> <ol style="list-style-type: none"> <li>1. Hands on experience needed to understand architecture concepts and software design cycles in projects.</li> <li>2. Students need to enhance problem solving abilities and hence tutorials need to be introduced.</li> <li>3. PL/SQL and DB security concepts need to be introduced in DBMS course</li> </ol> <p><b>Feedback from Alumni:</b></p> <ol style="list-style-type: none"> <li>1. Exposure to recent technologies of industry like AI and ML.</li> <li>2. Work on real time problems for projects.</li> <li>3. Exposure to use of fundamentals of mathematics to computer science applications.</li> </ol>

Feedback for PG	
1	Observations/ Recommendations based on feedback
	<p><b>Feedback from Employee</b></p> <ol style="list-style-type: none"> <li>1. List of Laboratories to be revised and importance is to be given to the latest technologies also hands on experience should be given lot of importance.</li> <li>2. Project work and minor projects should be chosen based on the latest technology and the students should be made to work on research oriented projects.</li> <li>3. Depth of the knowledge gained by PG Students should be more compared to UG Students.</li> <li>4. The students should be made to publish papers in International Journals and conferences.</li> <li>5. Fundamentals to be strengthened.</li> </ol> <p><b>Feedback from Alumni:</b></p> <ol style="list-style-type: none"> <li>1. The students should be Exposure to the latest technologies.</li> <li>2. The students should be sent to industry to do Project Work.</li> <li>3. If the students are doing fourth semester project at the university, they must choose a research oriented projects.</li> <li>4. Work on real time research oriented projects.</li> </ol> <p><b>Feedback from Faculty --- Pre BoS MOM</b></p> <ol style="list-style-type: none"> <li>1. List of electives to be revised.</li> <li>2. Project work and minor projects should be chosen based on the latest technology and the students should be made to work on research oriented projects.</li> </ol>



3. The students should be made to publish papers in an International Journals and conferences.
4. Compiler Design, Cryptography and network security, Image and video processing and wireless networks courses to be given importance and to be either core or electives.

**Course Feedback:**

3. The courses like Compiler Design, Cryptography and network security, Image and video processing and wireless networks to be includes in the curriculum.
4. Data Mining along with Analytics to be to be added as an elective / core course as the industry trend is moving towards Business Analytics.
5. As the Software Testing is getting more importance in the industry, a course on Software Testing to be included.
6. Internet of Things, Parallel Processing, Distributed and Cloud Computing to be given priority.
7. Computer Graphics to be included in the list of electives.

Annexure 2.4	
Discussion Item	
Actions taken: Based on the feedback from stakeholders, employers, faculty, alumni and students the following actions are initiated.	Course Revised/ Added
	<b>Courses Revised:</b>
Tutorial is introduced for DAA (17ECSC204) course with emphasis on analysis of the algorithms.	Data structures and algorithms (17ECSC204)
The contents of Applied Statistics (15EMAB209) are redesigned with supporting lab tutorials.	Applied Statistics(15EMAB209)
In DBMS (15ECSC208), Course Projects are introduced to apply ER model and normalization principles on real life problems. Presentation of the course project as well as report writing is carried out in DBA Lab course.	DBMS (15ECSC208)
CN lab (15ECSP302) is redesigned with focus towards structured enquiry and open ended problem statements for analysis of algorithms and protocols.	CN (15ECSP302)
Co-teaching of course Operating Systems (17ECSC203) by industry experts to provide practical industrial perspective to the theoretical concepts.	OS (17ECSC203)
COA Lab course (18ECSP202) is introduced with experiments and to comprehend design principles of components of computer systems.	COA (18ECSP202)
<ol style="list-style-type: none"> <li>1. An elective course Algorithmic problem solving (17ECSE309) is introduced to enhance Problem solving and programming skills.</li> <li>2. The Algorithmic Problem Solving course is introduced in collaboration with Samsung. It is an elective open to all departments (intake through entrance test).</li> <li>3. The course is run on HackerRank / CodeChef platforms, which enables the students in building competitive programming skills.</li> </ol>	APS (17ECSE309)
<ol style="list-style-type: none"> <li>1. Blue print methodology which involves brain storming, iterative hand drawn designs, design evaluations and implementation is introduced.</li> <li>2. Mini project is focused on software design life cycle (SDLC) is introduced.</li> </ol>	Mini Project (15ECSW301)
	<b>Courses Introduced:</b>
<ol style="list-style-type: none"> <li>1. In machine learning course, tutorial problems are taken from Kaggle and Stanford university websites.</li> <li>2. Co-teaching of course Machine learning (17ECSC306) by industry experts to provide practical industrial perspective to the theoretical concepts.</li> </ol>	ML (17ECSC306)



DCC course is introduced as a course subjects to enable students for employment opportunities in the area of cloud computing

DCC (17ECSC305)


Annexure 2.5	
Discussion Item	
Actions taken: Based on the feedback from stakeholders, employers, faculty, alumni and students the following actions are initiated.	Course Revised/ Added
Compiler Design 16ECSE705 is introduced as an elective course in the First Semester to explore the design concepts.	Compiler Design 16ECSE705
Cryptography and Network Security 16ECSE707 is introduced as an elective course in the First Semester as it is getting more importance in the industry.	Cryptography and Network Security 16ECSE707
Distributed and Cloud Computing 16ECSC711 is introduced as the Cloud Computing is getting more and more importance in the industry.	Distributed and Cloud Computing 16ECSC711
Computer Networks 16ECSC712 is introduced to strengthen the basics of computer networks and to gain the in depth knowledge of about the Computer Networks.	Computer Networks 16ECSC712
Software Testing 16ECSC713 is introduced as lot of jobs are created in the field of Software Testing. Also corresponding lab is introduced to explore the hands on experience.	Software Testing 16ECSC713
Computer Graphics 16ECSE714 is introduced as an elective to explore the possibilities of GUI Design for applications and animations.	Computer Graphics 16ECSE714
Applied Parallel Computing 16ECSE715 is introduced to explore the parallel Computing Also a High Performance Computing is getting more and more importance to reduce the execution time and to execute many applications faster.	Applied Parallel Computing 16ECSE715
Internet Of Things 16ECSE716 is introduced as an elective. The industry is moving towards IoT applications. Also many industries are going for Industry 4.0 in which IoT plays an important role. The students are exposed to Sensors, Actuators and Cloud so as to adopt to the new Technologies.	Internet Of Things 16ECSE716
Software Testing Lab 16ECSP717 is introduced as a part of Software Testing Course where the students are able to explore both theory and hands on of Software Testing.	Software Testing Lab 16ECSP717
Distributed and Cloud Computing Lab 16ECSP718 is introduced to strengthen the course on Distributed and Cloud Computing. Network, IoT and Cloud Computing are integrated in the design of the structure so as to impart the knowledge about the latest Technologies and to increase the possibilities of placement for the students.	Distributed and Cloud Computing Lab 16ECSP718
Data Mining and Business Analytics 16ECSC801 is introduced as a core course in the third semester. To improve the analytical skills of the students. Also Job opportunities are increasing in the area of Data Mining and Business Analytics.	Data Mining and Business Analytics 16ECSC801
Image and Video Processing 16ECSE803 is introduced as an elective course as lot of research work is going on in this area. Many companies not only the software companies are making use of the image and video processing for automation, reduce the man power for production and so on. Also AI and ML algorithms are used to develop many applications using image and video processing.	Image and Video Processing 16ECSE803
Wireless Networks 16ECSE804 is introduced to impart an in depth knowledge about wireless networks. Also Wireless Networks are getting more and more importance in the industry. Also more jobs are available if	Wireless Networks 16ECSE804





School of Computer Science and Engineering  
KLE Tech University  
BVBCET Campus, Hubballi -31

the student is having good depth of the wireless networks.

  
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HUBBALLI-560 031 





**KLE** Technological  
University  
Creating Value  
Leveraging Knowledge

## Minutes

### 3<sup>rd</sup> Board of Studies Meeting

of

**School of Computer Science and Engineering**

Hubballi, Karnataka

1<sup>st</sup> April 2017

KLE Technological University

(Established under Karnataka Act No.22, 2013)

  
**REGISTRAR**  
KLE Technological University  
HUBBALLI-580 031





The following are the minutes of the Board of Studies meeting of SoCSE, KLE Technological University, Hubballi which was held on 1<sup>st</sup> April 2017 at 09:00 am at the C-lite Board Room.

The following members were present.

Sl No	Name	Designation	Position
1.	Dr. Meena S. M.	Professor & Head of the School/ Department	Chairman
2.	Dr. G. H. Joshi	Professor ,Dean's nominee	Member
3.	Dr. V. P. Baligar	Professor,Dean's nominee	Member
4.	Dr. S.R. Chickerur	Professor, Dean's nominee	Member
5.	Dr. S.G. Totad	Professor, Dean's nominee	Member
6.	Dr. Karibasappa K.G.	Professor,Dean's nominee	Member
7.	Dr. Narayan D. G.	Associate Professor, Dean's nominee	Member
8.	Prof. Vidya Handur	Associate Professor, Dean's nominee	Member
9.	Dr. Basavaraj Anami	Subject expert from outside the college nominated by the Vice-Chancellor	Member
10.	Prof. Muralidhar V.N.	Subject expert from outside the college nominated by the Vice-Chancellor	Member
11.	Dr. Pradeep V. Desai	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
12.	Mr. Shashikumar G.	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
13.	Mr. Ram Jakati	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
14.	Prof. Phalachandra HL	Subject expert from outside the college nominated by the Vice-Chancellor	Member
15.	Dr. Shankar G.	Associate Professor Dean's nominee	Member Secretary

#### 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 2 <sup>nd</sup> BoS meeting held on 18 <sup>th</sup> March 2016	
3.3	To confirm the action taken report on the minutes of the previous meeting held on 18 <sup>th</sup> March 2016	
3.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same. <ul style="list-style-type: none"> <li>a. Ratification of scheme for 2015-19, 2016-20 batch.</li> <li>b. Approval of syllabi V &amp; VI Semester of 2015 - 19 batch.</li> <li>c. Approval of syllabi III &amp; IV Semester of 2016 - 20 batch.</li> <li>d. Approval of scheme I to VIII Semester of 2017 - 21 batch.</li> <li>e. Approval of Programming in C syllabus I/II Semester of 2017 - 21 batch.</li> <li>f. Minor Programme in CSE</li> </ul>	
3.5	To consider the Schemes and Syllabi of the postgraduate program. <ul style="list-style-type: none"> <li>a. Approval of scheme of 2017 - 19 batch.</li> <li>b. Approval of syllabi of 2017 - 19 batch.</li> </ul>	
3.6	Any other matter for discussion with the permission of the chair	



BoS 3.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. <u>(Annexure 3.1)</u>
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**Resolution 3.1:** The BoS members appreciated the initiatives of SoCSE and lauded its achievements.

BoS 3.2	To read and confirm the minutes of 2 <sup>nd</sup> BoS meeting held on 18 <sup>th</sup> March 2016																																														
	The following are the minutes of the Board of Studies meeting of SoCSE, KLE Technological University, Hubballi which was held on 18 <sup>th</sup> March 2016 at 10:30 am at the Senate Hall of the University. <b>The following members were present.</b>																																														
	<table><tr><th>Sl No</th><th>Name</th><th>Designation</th><th>Position</th></tr><tr><td>1.</td><td>Dr. Meena .S.M.</td><td>Professor &amp; Head of the School/ Department</td><td>Chairman</td></tr><tr><td>2.</td><td>Prof. K.R. Biradar</td><td>Professor , Dean's nominee</td><td>Member</td></tr><tr><td>3.</td><td>Dr. G. H. Joshi</td><td>Professor , Dean's nominee</td><td>Member</td></tr><tr><td>4.</td><td>Dr. V. P. Baligar</td><td>Professor, Dean's nominee</td><td>Member</td></tr><tr><td>5.</td><td>Dr. S.G. Totad</td><td>Professor, Dean's nominee</td><td>Member</td></tr><tr><td>6.</td><td>Mr. Narayan D. G.</td><td>Associate Professor, Dean's nominee</td><td>Member</td></tr><tr><td>7.</td><td>Dr. Uday Wali</td><td>Subject expert from outside the college nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>8.</td><td>Dr. Pradeep V. Desai</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>9.</td><td>Mr. Shashikumar G.</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>10.</td><td>Mr. Ram Jakati</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr></table>	Sl No	Name	Designation	Position	1.	Dr. Meena .S.M.	Professor & Head of the School/ Department	Chairman	2.	Prof. K.R. Biradar	Professor , Dean's nominee	Member	3.	Dr. G. H. Joshi	Professor , Dean's nominee	Member	4.	Dr. V. P. Baligar	Professor, Dean's nominee	Member	5.	Dr. S.G. Totad	Professor, Dean's nominee	Member	6.	Mr. Narayan D. G.	Associate Professor, Dean's nominee	Member	7.	Dr. Uday Wali	Subject expert from outside the college nominated by the Vice-Chancellor	Member	8.	Dr. Pradeep V. Desai	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member	9.	Mr. Shashikumar G.	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member	10.	Mr. Ram Jakati	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member		
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Item No.	Description
BoS 2.1	<p>To welcome the BoS Members and present department achievements &amp; initiatives and discussed about the inputs from all stake holders. <u>(Annexure 2.1)</u></p> <p><b>Resolution 2.1:</b> The BoS members appreciated the initiatives of SoCSE and lauded its achievements.</p>
BoS 2.2	<p>To read and confirm the minutes of 1<sup>st</sup> BoS meeting held on 11<sup>th</sup> July 2015</p> <p><b>Resolution 2.2:</b> Minutes of the last meeting were read and confirmed by BoS.</p>
BoS 2.3	<p>To confirm the action taken report on the minutes of the previous meeting held on 11<sup>th</sup> July 2015</p> <p><b>Resolution 2.3:</b> BoS confirmed the action taken report on the minutes of the previous meeting held on 11<sup>th</sup> July 2015 and suggestions were implemented.</p>
BoS 2.4	<p>To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ol style="list-style-type: none"> <li>Scheme approval of I to VIII Semester (2016-20)</li> <li>Syllabus approval of I / II Semester, Programming in C course (2016-20)</li> <li>Ratification of Scheme of III to VIII Semester (2015-19)</li> <li>Syllabus approval of III / IV Semester (2015-19)</li> <li>Approval of Minor Program in CSE</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p> <p>The details of discussion are in <b>Annexure 2.4.</b></p>



	<p><b>Action Item No.1: Suggested to adopt Unix System Programming to implement the OS concepts</b></p> <ol style="list-style-type: none"> <li>1) OS (17ECSC203)</li> </ol> <p><b>Action Item No.2: Mathematics courses to be co-related with real time engineering examples</b></p> <ol style="list-style-type: none"> <li>1) Applied Statistics(15EMAB209)</li> </ol> <p><b>Action Item No.3: Enhancing of Programming and algorithmic analysis Skill :</b></p> <ol style="list-style-type: none"> <li>1) Data structures and algorithms (17ECSC204)</li> <li>2) Algorithmic Problem Solving (17ECSE309)</li> </ol> <p><b>Action Item No.4: Skill improvement to inculcate implementing change in the requirements during project implementation.</b></p> <ol style="list-style-type: none"> <li>1) Mini Project (15EC3W301)</li> </ol> <p><b>Action Item No.5: Students need to work on open source project and contribute to GitHub</b></p> <ol style="list-style-type: none"> <li>1) Machine Learning (17ECSC306)</li> </ol> <p><b>Action Item No.6: PL/SQL and DB security concepts need to be introduced in DBMS course</b></p> <ol style="list-style-type: none"> <li>1) DBMS (15ECSC208)</li> </ol> <p><b>Action Item No.7: The course contents needs to be relevant with current knowledge and practices in the industry like DCC.</b></p> <ol style="list-style-type: none"> <li>1) CN (15ECSP302)</li> <li>2) DCC (17ECSC305)</li> </ol> <p><b>Resolution 2.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</b></p> <ol style="list-style-type: none"> <li>a) Scheme approval of I to VIII Semester (2016-20)</li> <li>b) Syllabus approval of I / II Semester, Programming in C course (2016-20)</li> <li>c) Ratification of Scheme of III to VIII Semester (2015-19)</li> <li>d) Syllabus approval of III / IV Semester (2015-19)</li> <li>e) Approval of Minor Program in CSE</li> </ol>
BoS 2.5	<p>To consider the Schemes and Syllabi of the <b>postgraduate program CSE.</b></p> <ol style="list-style-type: none"> <li>a) Scheme approval of I to IV Semester (2017-19)</li> <li>b) Syllabus approval of I/II Semester (2017-19)</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> 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 <b>Annexure 2.5.</b></p> <p><b>Action Item No.8: New Courses added</b></p> <ol style="list-style-type: none"> <li>1. Artificial Intelligence and Machine Learning</li> <li>2. Web Technology Laboratory</li> <li>3. Mathematics</li> <li>4. Multimedia and Image Processing</li> <li>5. Computer Graphics and Vision</li> <li>6. Mobile Application Development</li> </ol> <p><b>Action Item No.9: Courses Modified</b></p> <ol style="list-style-type: none"> <li>1. Data Structures and Algorithms</li> <li>2. Software Engineering</li> <li>3. DMBS</li> <li>4. Operating System Engineering</li> </ol>



	<ol style="list-style-type: none"> <li>5. Embedded Systems.</li> <li>6. Cryptography and Network Security</li> <li>7. Distributed and Cloud Computing</li> <li>8. Computer Networks</li> <li>9. Software Testing</li> <li>10. Internet Of Things</li> <li>11. Applied Parallel Computing</li> <li>12. Big Data Analytics</li> </ol> <p><b>Resolution 2.5: Resolved to approve the Schemes and Syllabi of the postgraduate program subject to implementation of action points listed above:</b></p> <ol style="list-style-type: none"> <li>1. Scheme approval of I to IV Semester (2017-19)</li> <li>2. Syllabus approval of I to IV Semester (2017-19)</li> </ol>
BoS 2.6	<p>Question Paper review</p> <p><b>Discussion:</b> The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.</p> <p><b>Resolution 2.6: Resolved to approve the Question Paper Pattern</b></p>
BoS 2.7	<p>Vision, Mission, POs and PSOs of School of CSE</p> <p><b>Discussion:</b> The Vision, Mission, POs and PSOs of School of CSE were presented.</p> <p><b>Resolution 2.7: Resolved to approve the Vision, Mission, POs and PSOs of School of CSE</b></p>
BoS 2.8	<p>Any other matter for discussion with the permission of the chair</p> <p>Nil.</p>


**Resolution 3.2: Resolved to confirm the minutes of its 2<sup>nd</sup> BoS meeting held on 18th March 2016**

  
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BoS 3.3	To confirm the action taken report on the minutes of the previous meeting held on 18th March 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. ( <i>Annexure 2.1</i> ) <b>Resolution 2.1:</b> The BoS members appreciated the initiatives of SoCSE and lauded its achievements.	Noted
BoS 2.2	To read and confirm the minutes of 1 <sup>st</sup> BoS meeting held on 11th July 2015 <b>Resolution 2.2:</b> 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 11 <sup>th</sup> July 2015 <b>Resolution 2.3:</b> BoS confirmed the action taken report on the minutes of the previous meeting held on 11 <sup>th</sup> July 2015 and suggestions were implemented.	Noted
BoS 2.4	<p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> 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 <i>Annexure 2.4</i>.</p> <p><b>Action Item No.1: Suggested to adopt Unix System Programming to implement the OS concepts</b> 1) OS (17ECSC203)</p> <p><b>Action Item No.2: Mathematics courses to be co-related with real time engineering examples</b> 1) Applied Statistics(15EMAB209)</p> <p><b>Action Item No.3: Enhancing of Programming and algorithmic analysis Skill :</b> 1) Data structures and algorithms (17ECSC204) 2) Algorithmic Problem Solving (17ECSE309)</p> <p><b>Action Item No.4: Skill improvement to inculcate implementing change in the requirements during project implementation.</b> 1) Mini Project (15EC3W301)</p> <p><b>Action Item No.5: Students need to work on open source project and contribute to GitHub</b> 1) Machine Learning (17ECSC306)</p> <p><b>Action Item No.6: PL/SQL and DB security concepts need to be introduced in DBMS course</b> 1) DBMS (15ECSC208)</p> <p><b>Action Item No.7: The course contents needs to be relevant with current knowledge and</b></p>	<p>The BoS members noted the progress of the School and recommended certain action items and timeline.</p> <p><b>Action Item No.1: Suggested to adopt Unix System Programming to implement the OS concepts</b> <i>ATR: Identified Operating system will be introduced with a lab component and flipped classroom with industry expert.</i></p> <p><b>Action Item No.2: Mathematics courses to be co-related with real time engineering examples</b> <i>ATR: The contents of Applied statistics is redesigned with supporting lab tutorials with R programming and considering real time data analytics examples.</i></p> <p><b>Action Item No.3: Enhancing of Programming and algorithmic analysis Skill</b> <b>ATR:</b> 1) An elective course Algorithmic problem solving (17ECSE309) is introduced to enhance Problem solving and programming skills. 2) The Algorithmic Problem Solving course is introduced in collaboration with Samsung. It is an elective open to all departments (intake through entrance test). 3) The course is run on HackerRank / CodeChef platforms, which enables the students in building competitive programming skills.</p> <p><b>Action Item No.4: Skill improvement to inculcate implementing change in the requirements during project implementation.</b> <b>ATR:</b> 1) Blue print methodology which involves brain storming, iterative hand drawn designs, design evaluations and implementation is introduced. 2) Mini project is focused on software design life cycle (SDLC) is introduced.</p> <p><b>Action Item No.5: Students need to work on open source project and contribute to GitHub</b> <b>ATR:</b></p>

  
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	<p><b>practices in the industry like DCC.</b></p> <ol style="list-style-type: none"> <li>1) CN (15ECSP302)</li> <li>2) DCC (17ECSC305)</li> </ol>	<ol style="list-style-type: none"> <li>1) In machine learning course, tutorial problems are taken from Kaggle and Stanford university websites.</li> <li>2) Co-teaching of course Machine learning (17ECSC306) by industry experts to provide practical industrial perspective to the theoretical concepts.</li> </ol> <p><b>Action Item No.6: PL/SQL and DB security concepts need to be introduced in DBMS course</b> ATR: In DBMS (15ECSC208), Course Projects are introduced to apply ER model and normalization principles on real life problems. Presentation of the course project as well as report writing is carried out in DBA Lab course.</p> <p><b>Action Item No.7: The course contents needs to be relevant with current knowledge and practices in the industry like DCC.</b> ATR: DCC course is introduced as a course subjects to enable students for employment opportunities in the area of cloud computing.</p>
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**Resolution 2.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.**

- a) Scheme approval of I to VIII Semester (2016-20)
- b) Syllabus approval of I / II Semester, Programming in C course (2016-20)
- c) Ratification of Scheme of III to VIII Semester (2015-19)
- d) Syllabus approval of III / IV Semester (2015-19)
- e) Approval of Minor Program in CSE

BoS 2.5	<p>To consider the Schemes and Syllabi of the postgraduate program.</p> <ol style="list-style-type: none"> <li>a) Scheme approval of I to IV Semester (2016-18)</li> <li>b) Syllabus approval of I/II Semester (2016-18)</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p> <p><b>Action Item No.1: New Courses added</b></p> <ol style="list-style-type: none"> <li>1.Principles and practices of Engineering Education</li> </ol>	<p><b>The BoS members noted the progress of the School and recommended certain action items and timeline.</b></p> <p><b>Action Item No.4: Identify industries in focus areas.</b> ATR: Discussion with industries from Infosys, KPIT, Continental, and other industries.</p> <p><b>Action Item No.5: Identify industries for Internships.</b> ATR: Identified about 10 industries, and discussions are at initial stage.</p>
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**Resolution 2.5: Resolved to approve the Schemes and Syllabi of the postgraduate program subject to implementation of action points listed above:**

- a) Scheme approval of I to IV Semester (2016-18)
- b) Syllabus approval of I/II Semester (2016-18)

BoS 2.6	<p>Question Paper review</p> <p><b>Discussion:</b> The Question Paper along with assessment patterns with respect to Bloom's Levels and PO-PSO-PI mapping was presented.</p>	<p>QP Pattern is incorporated in all the courses.</p>
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	<b>Resolution 2.7: Resolved to approve the Question Paper Pattern</b>	
BoS 2.7	Vision, Mission, POs and PSOs of School of CSE <b>Discussion:</b> The Vision, Mission, POs and PSOs of School of CSE were presented. <b>Resolution 2.8: Resolved to approve the Vision, Mission, POs and PSOs of School of CSE</b>	SoCSE staff aligned to Vision, Mission, POs and PSOs
BoS 2.8	Any other matter for discussion with the permission of the chair Nil.	

**Resolution: 3.3 Resolved to confirm the action taken report on the minutes of its 2<sup>nd</sup> BoS meeting held on 18th March 2016. The BoS members appreciated the new initiatives taken by SoCSE.**

  
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<b>BoS 3.4</b>	<p>To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ol style="list-style-type: none"> <li>Ratification of scheme for 2015-19, 2016-20 batch.</li> <li>Approval of syllabi V &amp; VI Semester of 2015 - 19 batch.</li> <li>Approval of syllabi III &amp; IV Semester of 2016 - 20 batch.</li> <li>Approval of scheme III to VIII Semester of 2017 - 21 batch.</li> <li>Approval of Programming in C syllabus I/II Semester of 2017 - 21 batch.</li> <li>Minor Programme in CSE</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> 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 <b>Annexure 3.4</b>.</p> <p><b>Action Item No.1:</b> To enhance programming skills for solving real time applications.</p> <ol style="list-style-type: none"> <li>Scripting Languages Lab - 18ECSP201</li> </ol> <p><b>Action Item No.2:</b> To introduce students to basic building blocks of computer architecture.</p> <ol style="list-style-type: none"> <li>Computer Organization and Architecture - 18ECSC201- (4-0-0)</li> </ol> <p><b>Action Item No.3:</b> Object oriented design concepts for programming</p> <ol style="list-style-type: none"> <li>Object Oriented Programming with C++ - 18ECSC207-(3-0-0)</li> <li>Object Oriented Programming with C++ lab- 18ECSP203 - (0-0-1.5)</li> </ol> <p><b>Action Item No.4:</b> The Operating system concepts to be simulated in lab using Unix programming.</p> <ol style="list-style-type: none"> <li>Operating System Principles and Programming - 18ECSC202 (4-0-1)</li> </ol> <p><b>Action Item No.5:</b> A course on dedicated embedded system for real time applications to be introduced to enhance employment opportunities to the current automotive industries.</p> <ol style="list-style-type: none"> <li>Microcontroller Programming &amp; Interfacing (18ECSC206) - (3-0-1)</li> </ol> <p><b>Action Item No.6:</b> To enhance interdisciplinary project work and expose students to engineering design principles in the project space.</p> <ol style="list-style-type: none"> <li>Engineering Design (17ECSP202)</li> <li>Product Realization(17ECSP203)</li> </ol> <p><b>Action Item No.7:</b> Increase the numbers of Industry collaborative projects for students to get exposure to industry practices.</p> <ol style="list-style-type: none"> <li>Mini , Minor and capstone projects</li> </ol> <p><b>Action Item No.8:</b> To use Hadoop framework and R / Python programming for implementing Data mining functionalities</p> <ol style="list-style-type: none"> <li>Data Mining &amp; Analysis</li> </ol> <p><b>Action Item No.9:</b> In project work, design and documentation of the Agile software development of the software/product developed is performed.</p> <ol style="list-style-type: none"> <li>Mini project</li> </ol> <p>Resolution 3.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ol style="list-style-type: none"> <li>Approval of syllabi V &amp; VI Semester of 2015 - 19 batch.</li> <li>Approval of syllabi III &amp; IV Semester of 2016 - 20 batch.</li> <li>Approval of scheme III to VIII Semester of 2017 - 21 batch.</li> <li>Approval of Programming in C syllabus I/II Semester of 2017 - 21 batch.</li> <li>Minor Programme in CSE</li> </ol>
<b>BoS 3.5</b>	<p>To consider the Schemes and Syllabi of the postgraduate program.</p> <ol style="list-style-type: none"> <li>Approval of scheme of 2017 - 19 batch.</li> <li>Approval of syllabi of 2017 - 19 batch.</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p>

  
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	<p><b>Action Item No.10: New Courses added</b></p> <ol style="list-style-type: none"><li>1. Artificial Intelligence and Machine Learning 17ECSE705</li><li>2. Web Technology Laboratory 17ECSP709</li><li>3. Mathematics 17ECSC717</li><li>4. Multimedia and Image Processing 17ECSE714</li><li>5. Computer Graphics and Vision 17ECSE802</li><li>6. Mobile Application Development 17ECSE803</li></ol> <p><b>Action Item No.11: Courses Modified</b></p> <ol style="list-style-type: none"><li>1. Data Structures and Algorithms 17ECSC701</li><li>2. Software Engineering 17ECSC702</li><li>3. DMBS 17ECSC703</li><li>4. Operating System Engineering 17ECSC704</li><li>5. Embedded Systems. 17ECSE706</li><li>6. Cryptography and Network Security 17ECSE707</li><li>7. Distributed and Cloud Computing 17ECSC711</li><li>8. Computer Networks 17ECSC712</li><li>9. Software Testing 17ECSC713</li><li>10. Internet Of Things 17ECSE715</li><li>11. Applied Parallel Computing 17ECSE716</li><li>12. Big Data Analytics 17ECSC801</li></ol> <p><b>Resolution 3.5: Resolved to approve the Schemes and Syllabi of the postgraduate program.</b></p> <ol style="list-style-type: none"><li>a) Approval of scheme of 2017 - 19 batch.</li><li>b) Approval of syllabi of 2017 - 19 batch.</li></ol>
<b>BoS 3.6</b>	Any other matter for discussion with the permission of the chair
	Nil

The Chairperson thanked all the members for the fantastic contributions

Dr. Meena S.M.  
Chairperson, BoS, SoCSE

  
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**Annexure 3.1**

**Discussion Item**

**Feedback from Employee**

1. Focus on Fundamental knowledge in course of OS, Programming.
2. Object oriented design concepts should be included.
3. Not able to map concepts to real time examples.
4. To think out of box approach for problem solving.
5. Exposure to new technologies.
6. Practical application of concepts/more hands on required.
7. Practical application of data structure is compulsory.

**Feedback from Faculty --- Pre BoS MOM**

1. Multithread programming concepts to be included in OOP's syllabus.
2. Machine independent code optimization should be included in POCD.
3. Focus towards finite automata theory and group theory.

**Course Feedback:**

1. The course contents needs to be relevant with current knowledge and practices in the industry
2. More exposure towards current programming skills viz. python as scripting language and, tensor flow as frameworks.

**Feedback from Alumni:**

1. Exposure to recent to recent technologies like AI/ML, IoT, Quantum Computing.
2. Students programming code needs to be evaluated on hacker rank and code chef platforms.

**Feedbacks for MTech CSE**

**Feedback from Employee**

1. List of Laboratories to be revised and importance is to be given to the latest technologies also hands on experience should be given lot of importance.
2. Computer Vision, AI and Machine Learning and Big Data Analytics to be given Importance.
3. Project work and minor projects should be chosen based on the latest technology and the students should be made to work on research oriented projects.
4. IoT with Machine Learning and Cloud Computing Projects to be given to the Students.
5. Depth of the knowledge gained by PG Students should be more compared to UG Students.
6. The students should be made to publish papers in International Journals and conferences.
7. Fundamentals to be strengthened.

**Feedback from Alumni:**

1. The students should be exposed to the latest technologies. Computer Vision, AI and Machine Learning and Big Data Analytics.
2. The students should be sent to industry to do Project Work.
3. If the students are doing fourth semester project at the university, they must choose a research oriented projects.
4. Work on real time research oriented projects.

**Feedback from Faculty --- Pre BoS MOM**

1. List of electives to be revised and Artificial Intelligence and Machine Learning course to be given importance.
2. Web Technology Lab to be introduced.
3. Fundamentals to be made strong especially Mathematics / Analysis to be given importance.

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4. Multimedia and Image Processing, Computer Vision, Big Data Analytics and Mobile Application Development Courses to be given importance.
5. Project work and minor projects should be chosen based on the latest technology and the students should be made to work on research oriented projects. Deep Learning / Machine Learning Projects to be given importance.
6. The students should be made to publish papers in an International Journals and conferences.

**Course Feedback:**

1. The courses like Image and video processing and Artificial Intelligence and Machine Learning to be includes in the curriculum.
2. Big Data Analytics to be to be added as an elective / core course as the industry trend is moving towards Business Analytics.
3. As the Mobile Application Development is getting more importance in the industry, a course on Mobile Application Development to be included.
4. Internet of Things, Parallel Processing, Distributed and Cloud Computing to be given priority.

  
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Annexure 3.4	
Discussion Item	
Actions taken: Based on the feedback from stakeholders, employers, faculty, alumni and students the following actions are initiated.	Course Revised/ Added
	<b>Courses Revised:</b>
To enhance programming skills using python and shell scripting laying the foundations to conduct projects to solve real time applications	Scripting Languages Lab - 18ECSP201- (0-0-2)
Course COA covers the theoretical design and functionality of different building blocks of modern computer systems.	Computer Organization and Architecture - 18ECSC201- (4-0-0)
In 'Object Oriented Programming with C++' courses software testing practices are adopted in lab assignments.	Object Oriented Programming with C++ - 18ECSC207-(3-0-0)
OSPA is redesigned with a lab component to have hands on experience of OS concepts using Unix system programming.	Operating System Principles and Programming - 18ECSC202 (4-0-1)
Microcontroller Programming & Interfacing to enable students to conduct projects on real time application such as IoT and embedded applications.	Microcontroller Programming & Interfacing (18ECSC206) - (3-0-1)
In 'Object Oriented Programming with C++' courses software testing practices are adopted in lab assignments.	Object Oriented Programming with C++ lab- 18ECSP203 - (0-0-1.5)
	<b>Courses Introduced:</b>
To enhance engineering design skills and inter disciplinary project work	Engineering Design (17ECSP202) Product Realization(17ECSP203)
<ol style="list-style-type: none"> <li>1. In project work, for industry track posters are displayed to students, followed by allocation of teams to industry projects.</li> <li>2. Meetings are conducted with industry mentors to design and develop the solutions by considering the societal needs.</li> <li>3. In entrepreneur track the selection process is done by CtiE to develop society relevant solutions.</li> <li>4. Hadoop framework and R / Python programming were used for implementing Data mining functionalities in the course on Data Mining and Business Analytics.</li> <li>5. 20% of the minor and capstone projects are carried out in collaboration with industry for students to get exposure to the industrial practices.</li> <li>6. In project work, design and documentation of the Agile software development of the software/product developed is performed.</li> </ol>	Product Realization(17ECSP203)





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Annexure 2.5.	
Discussion Item	
Actions taken: Based on the feedback from stakeholders, employers, faculty, alumni and students the following actions are initiated.	Course Revised / Added
1. Artificial Intelligence and Machine Learning 17ECSE705 is introduced to adopt to the latest technology.	Artificial Intelligence and Machine Learning 17ECSE705
2. Web Technology Laboratory 17ECSP709 is introduced to develop web services.	Web Technology Laboratory 17ECSP709
3. Mathematics 17ECSC717 is introduced as ML and DL need lot of maths background. Also maths fundamentals are gaining more importance	Mathematics 17ECSC717
4. Multimedia and Image Processing 17ECSE714 is introduced to impart in depth knowledge of image processing	Multimedia and Image Processing 17ECSE714
5. Computer Graphics and Vision 17ECSE802 is introduced as computer vision is gaining more importance in ML.	Computer Graphics and Vision 17ECSE802
6. Mobile Application Development 17ECSE803 is introduced to enable IoT applications.	Mobile Application Development 17ECSE803
7. Data Structures and Algorithms 17ECSC701 is modified to strengthen the programming skills	Data Structures and Algorithms 17ECSC701
8. Software Engineering 17ECSC702 is introduced to practice Design principles in their project work.	Software Engineering 17ECSC702
9. DMBS 17ECSC703 is modified to include current industrial tools	DMBS 17ECSC703
10. Operating System Engineering 17ECSC704 is modified to include realization of concepts using unix programming	Operating System Engineering 17ECSC704
11. Embedded Systems. 17ECSE706 to gain the hardware knowledge to enable IoT Projects.	Embedded Systems. 17ECSE706
12. Cryptography and Network Security 17ECSE707 is modified to include latest cryptographic trends / techniques	Cryptography and Network Security 17ECSE707
13. Distributed and Cloud Computing 17ECSC711 is modified to impart the latest cloud the Technologies and concepts	Distributed and Cloud Computing 17ECSC711
14. Computer Networks 17ECSC712 is modified to gain hands on experiments on protocols	Computer Networks 17ECSC712
15. Software Testing 17ECSC713 is introduced to impart the knowledge on latest software testing tools	Software Testing 17ECSC713
16. Internet Of Things 17ECSE715 is introduced as an elective to adopt and select latest technology to do projects.	Internet Of Things 17ECSE715
17. Applied Parallel Computing 17ECSE716 is introduced to explore the parallel computing.	Applied Parallel Computing 17ECSE716
18. Big Data Analytics 17ECSC801 is introduced to enhance the analytical skills.	Big Data Analytics 17ECSC801

  
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Creating Value  
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**Minutes**  
**4<sup>th</sup> Board of Studies Meeting**  
**of**  
**School of Computer Science and Engineering**  
**Hubballi, Karnataka**  
**7<sup>th</sup> April 2018**

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 SoCSE, KLE Technological University, Hubballi which was held on 7th April 2018 at 09:00 am at the C-lite Board Room.

The following members were present.

Sr	Name	Designation	Position
1.	Dr. Meena S. M.	Professor & Head of the School	Chairman
2.	Dr. G. H. Joshi	Professor, Dean's nominee	Member
3.	Dr. V. P. Baligar	Professor, Dean's nominee	Member
4.	Dr. S.R. Chickerur	Professor, Dean's nominee	Member
5.	Dr. S.G. Totad	Professor, Dean's nominee	Member
6.	Dr. Karibasappa K.G.	Professor, Dean's nominee	Member
7.	Prof. Narayan D. G.	Associate Professor, Dean's nominee	Member
8.	Prof. Vidya Handur	Associate Professor, Dean's nominee	Member
9.	Prof. Prakash Hegde	Assistant Professor nominated by the concerned Head of the Department/ School	Member
10.	Prof. Phalachandra HL	Subject expert from outside the college nominated by the Vice-Chancellor	Member
11.	Mr. Ram Jakati	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
12.	Mr. Shashikumar G.	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
13.	Mr. Santosh Pawar	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
14.	Prof. Shankar G.	Associate Professor Dean's nominee	Member Secretary

#### 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 3 <sup>rd</sup> BoS meeting held on 1st April 2017	
4.3	To confirm the action taken report on the minutes of the previous meeting held on 1st April 2017	
4.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same. <ul style="list-style-type: none"> <li>a. Approval of syllabi VII &amp; VIII Semester of 2015 - 19 batch.</li> <li>b. Ratification of scheme for 2016 - 20, 2017 - 21 batch.</li> <li>c. Approval of syllabi V &amp; VI Semester of 2016 - 20 batch.</li> <li>d. Approval of syllabi III &amp; IV Semester of 2017 - 21 batch.</li> <li>e. Approval of syllabus I/II Semester of 2018 - 22 batch.</li> <li>f. Approval of scheme III to VIII Semester of 2018 - 22 batch.</li> <li>g. Minor Programme in CSE for 2019 -21 batch.</li> </ul>	
4.5	To consider the Schemes and Syllabi of the postgraduate program in CSE. <ul style="list-style-type: none"> <li>a) Approval of (scheme &amp; syllabi) of 2018 - 20 batch.</li> </ul>	
4.6	Any other matter for discussion with the permission of the chair	

*[Signature]*  
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*[Signature]*



BoS 4.1	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. <u>(Annexure 4.1)</u>
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**Resolution 4.1:** The BoS members appreciated the initiatives of SoCSE and lauded its achievements.

BoS 4.2	<b>To read and confirm the minutes of 3<sup>rd</sup> BoS meeting held on 1st April 2017</b>																																																																		
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Item No.	Description
BoS 3.1	<p>To welcome the BoS Members and present department achievements &amp; initiatives and discussed about the inputs from all stake holders. (<b>Annexure 3.1</b>)</p> <p><b>Resolution 3.1:</b> The BoS members appreciated the initiatives of SoCSE and lauded its achievements.</p>
BoS 3.2	<p>To read and confirm the minutes of 2<sup>nd</sup> BoS meeting held on 18<sup>th</sup> March 2016</p> <p><b>Resolution 3.2:</b> Resolved to confirm the minutes of its 2<sup>nd</sup> BoS meeting held on 18th March 2016</p>
BoS 3.3	<p>To confirm the action taken report on the minutes of the previous meeting held on 18th March 2016</p> <p><b>Resolution: 3.3</b> Resolved to confirm the action taken report on the minutes of its 2<sup>nd</sup> BoS meeting held on 18th March 2016. The BoS members appreciated the new initiatives taken by SoCSE.</p>
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	<p>Resolution 3.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ul style="list-style-type: none"><li>a. Approval of syllabi V &amp; VI Semester of 2015 - 19 batch.</li><li>b. Approval of syllabi III &amp; IV Semester of 2016 - 20 batch.</li><li>c. Approval of scheme III to VIII Semester of 2017 - 21 batch.</li><li>d. Approval of Programming in C syllabus I/II Semester of 2017 - 21 batch.</li><li>e. Minor Programme in CSE</li></ul>
BoS 3.5	<p>To consider the Schemes and Syllabi of the postgraduate program.</p> <ul style="list-style-type: none"><li>a) Approval of scheme of 2017 - 19 batch.</li><li>b) Approval of syllabi of 2017 - 19 batch.</li></ul> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p> <p><b>Action Item No.1: New Courses added</b></p> <p><b>Resolution 3.5: Resolved to approve the Schemes and Syllabi of the postgraduate program.</b></p> <ul style="list-style-type: none"><li>a) Approval of scheme of 2017 - 19 batch.</li><li>b) Approval of syllabi of 2017 - 19 batch.</li></ul>
BoS 3.6	<p>Any other subject with the permission of the Chair</p> <p>Nil.</p>


Resolution 4.2: Resolved to confirm the minutes of its 2<sup>nd</sup> BoS meeting held on 18th March 2016

  
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BoS 4.3	To confirm the action taken report on the minutes of the previous meeting held on 1st April 2017	
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. ( <u>Annexure 3.1</u> ) Resolution 3.1: The BoS members appreciated the initiatives of SoCSE and lauded its achievements.	Noted
BoS 3.2	To read and confirm the minutes of 2 <sup>nd</sup> BoS meeting held on 18 <sup>th</sup> March 2016 Resolution 3.2: Resolved to confirm the minutes of its 2 <sup>nd</sup> BoS meeting held on 18th March 2016	Noted
BoS 3.3	To confirm the action taken report on the minutes of the previous meeting held on 18th March 2016 Resolution: 3.3 Resolved to confirm the action taken report on the minutes of its 2 <sup>nd</sup> BoS meeting held on 18th March 2016. The BoS members appreciated the new initiatives taken by SoCSE.	Noted
BoS 3.4	To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same. a. Ratification of scheme for 2015-19, 2016-20 batch. b. Approval of syllabi V & VI Semester of 2015 - 19 batch. c. Approval of syllabi III & IV Semester of 2016 - 20 batch. d. Approval of scheme III to VIII Semester of 2017 - 21 batch. e. Approval of Programming in C syllabus I/II Semester of 2017 - 21 batch. f. Minor Programme in CSE 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 02 <sup>nd</sup> 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 <b>Annexure 3.4</b> . <b>Action Item No.1:</b> To enhance programming skills for solving real time applications. 1) Scripting Languages Lab - 18ECSP201  <b>Action Item No.2:</b> To introduce students to basic building blocks of computer architecture. 1) Computer Organization and Architecture - 18ECSC201- (4-0-0)  <b>Action Item No.3:</b> Object oriented design concepts for programming 1) Object Oriented Programming with C++ - 18ECSC207-(3-0-0) 2) Object Oriented Programming with C++ lab- 18ECSP203 - (0-0-1.5)  <b>Action Item No.4:</b> The Operating system concepts to be simulated in lab using Unix programming. 1) Operating System Principles and Programming - 18ECSC202 (4-0-1)  <b>Action Item No.5:</b> A course on dedicated embedded system for real time applications to be introduced to enhance employment opportunities to the current automotive industries. 1) Microcontroller Programming & Interfacing (18ECSC206) - (3-0-1)  <b>Action Item No.6:</b> To enhance interdisciplinary project work and expose students to engineering design principles in the project space. 1) Engineering Design (17ECSP202)	The BoS members noted the progress of the School and recommended certain action items and timeline.  <b>Action Item No.1:</b> To enhance programming skills for solving real time applications. <b>ATR:</b> It is resolved to introduce a course Scripting Languages Lab - 18ECSP201- (0-0-2) at IV semester to enhance programming skills using python and shell scripting laying the foundations to conduct projects to solve real time applications.  <b>Action Item No.2:</b> To introduce students to basic building blocks of computer architecture. <b>ATR:</b> It is resolved to change the contents of Course COA to include theoretical design and functionality of different building blocks of modern computer systems. Hence change in syllabus of Computer Organization and Architecture - 18ECSC201- (4-0-0)  <b>Action Item No.3:</b> Object oriented design concepts for programming <b>ATR:</b> It is resolved to introduce a Course and lab on Object Oriented Programming with C++ for enhancing programming skills. 1) Object Oriented Programming with C++ - 18ECSC207-(3-0-0) 2) Object Oriented Programming with C++ lab- 18ECSP203 - (0-0-1.5)  <b>Action Item No.4:</b> The Operating system concepts to be simulated in lab using Unix programming. <b>ATR:</b> It is resolved to include a lab component for realization of OS concepts

  
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<p>2) Product Realization(17ECSP203)</p> <p><b>Action Item No.7:</b> Increase the numbers of Industry collaborative projects for students to get exposure to industry practices.</p> <p>1) Mini , Minor and capstone projects</p> <p><b>Action Item No.8:</b> To use Hadoop framework and R / Python programming for implementing Data mining functionalities</p> <p>2) Data Mining &amp; Analysis</p> <p><b>Action Item No.9:</b> In project work, design and documentation of the Agile software development of the software/product developed is performed.</p> <p>2) Mini project</p>	<p>by introducing a course Operating System Principles and Programming - 18ECSC202 (4-0-1).</p> <p><b>Action Item No.5:</b> A course on dedicated embedded system for real time applications to be introduced to enhance employment opportunities to the current automotive industries.</p> <p>ATR: It is resolved to introduce a new course on Microcontroller Programming &amp; Interfacing (18ECSC206) - (3-0-1) to conduct projects on real time application such as IoT and embedded applications.</p> <p><b>Action Item No.6:</b> To enhance interdisciplinary project work and expose students to engineering design principles in the project space.</p> <p>ATR: It is resolved to enhance engineering design skills for interdisciplinary project work Engineering Design (17ECSP202) Product Realization(17ECSP203)</p> <p><b>Action Item No.7:</b> Increase the numbers of Industry collaborative projects for students to get exposure to industry practices.</p> <p>ATR: It is resolved that 20% of the minor and capstone projects are carried out in collaboration with industry.</p> <p>1) Mini, Minor and capstone projects</p> <p><b>Action Item No.8:</b> To use Hadoop framework and R / Python programming for implementing Data mining functionalities</p> <p>ATR: It is resolved to manage huge data by dividing it in clusters and managing through Hadoop echo system. To preprocess and to manage huge data using R/Python programming.</p> <p>1) Data Mining &amp; Analysis</p> <p><b>Action Item No.9:</b> In project work, design and documentation of the Agile software development of the software/product developed is performed.</p> <p>ATR: It is resolved that software engineering concepts are practiced in mini projects.</p> <p>Mini project</p>
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Resolution 3.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.

- Approval of syllabi V & VI Semester of 2015 - 19 batch.
- Approval of syllabi III & IV Semester of 2016 - 20 batch.
- Approval of scheme III to VIII Semester of 2017 - 21 batch.
- Approval of Programming in C syllabus I/II Semester of 2017 - 21 batch.
- Minor Programme in CSE

BoS 3.5	<p>To consider the Schemes and Syllabi of the postgraduate program.</p> <ol style="list-style-type: none"> <li>Approval of scheme of 2017 - 19 batch.</li> <li>Approval of syllabi of 2017 - 19 batch.</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p> <p><b>Action Item No.1: New Courses added</b></p> <p>1.Principles and practices of Engineering Education</p>	<p>The BoS members noted the progress of the School and recommended certain action items and timeline.</p> <p><b>Action Item No.4: Identify industries in focus areas.</b></p> <p>ATR: Discussion with industries from Infosys, KPIT, Continental, and other industries.</p> <p><b>Action Item No.5: Identify industries for Internships.</b></p> <p>ATR: Identified about 10 industries, and discussions are at initial stage.</p>
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Resolution 3.5: Resolved to approve the Schemes and Syllabi of the postgraduate program.

- Approval of scheme of 2017 - 19 batch.
- Approval of syllabi of 2017 - 19 batch.

BoS 3.6	Any other matter for discussion with the permission of the chair NIL	
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Resolution: 4.3 Resolved to confirm the action taken report on the minutes of its 3<sup>rd</sup> BoS meeting held on 1st April 2017. The BoS members appreciated the new initiatives taken by SoCSE.

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*[Signature]*



<b>BoS 4.4</b>	<p>To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ol style="list-style-type: none"> <li>Approval of syllabi VII &amp; VIII Semester of 2015 - 19 batch.</li> <li>Ratification of scheme for 2016 - 20, 2017 - 21 batch.</li> <li>Approval of syllabi V &amp; VI Semester of 2016 - 20 batch.</li> <li>Approval of syllabi III &amp; IV Semester of 2017 - 21 batch.</li> <li>Approval of syllabus I/II Semester of 2018 - 22 batch.</li> <li>Approval of scheme III to VIII Semester of 2018 - 22 batch.</li> <li>Minor Programme in CSE for 2019 -21 batch.</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> 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 <b>Annexure 4.4</b>.</p> <p><b>Action item No.1: To improve problem solving skills at freshman year</b></p> <ol style="list-style-type: none"> <li>Problem Solving with DS (18ECSP102).</li> </ol> <p><b>Action Item No.2: Students should have the ability to apply mathematical concepts and fundamental knowledge of core courses to solve computer science engineering problems.</b></p> <ol style="list-style-type: none"> <li>Discrete Mathematical Structures- 19ECSC202-(3-1-0)</li> <li>Principles of Compiler Design -19ECSC203 -(3-1-0)</li> </ol> <p><b>Action Item No.3: Hands on implementation of protocols in networking</b></p> <ol style="list-style-type: none"> <li>Computer Networks-2- 19ECSC303-(2-0-1.5)</li> </ol> <p><b>Action Item No.4: To enable students to build solutions for big data applications using current industrial tools.</b></p> <ol style="list-style-type: none"> <li>Big data analytics (17ECSC401)</li> </ol> <p><b>Action Item No.5: The students should be able to design and develop a solution using software design principles</b></p> <ol style="list-style-type: none"> <li>Senior Design project (20ECSW401) – (0-0-6)</li> </ol> <p><b>Action Item No.6: Elective for electrical sciences that is focused towards AI/ML job profiles.</b></p> <ol style="list-style-type: none"> <li>Embedded Intelligent System(18ECSE302)</li> </ol> <p><b>Action Item No.7: Electives in all three verticals to be introduced student profile towards targeted job profile.</b></p> <ol style="list-style-type: none"> <li>Wireless Adhoc&amp; Sensor Networks -18ECSE406 - (3-0-0)</li> <li>Advanced Parallel Computing - 18ECSE408 - (3-0-0)</li> <li>Natural Language Processing -18ECSE403 - (3-0-0)</li> <li>Software Architecture and Design Thinking -18ECSE410 - (3-0-0)</li> <li>Model Thinking - 18ECSE411 - (3-0-0)</li> <li>Computer Networks-1- 19ECSC302 -(3-1-0)</li> <li>Java Programming -19ECSP301 - (1-0-1.5) - New Course</li> <li>Semantic Web – 19ECSE303 – (3-0-0)</li> <li>Block Chain Technology – 19ECSE301-(2-0-1)</li> <li>The ARM Architecture – 19ECSE302-(2-1-0)</li> </ol> <p><b>Action Item No.8: To cater to above average students to enhance research skills in focused domains of networking, data analytics and AI/ML.</b></p> <ol style="list-style-type: none"> <li>REU (17ECSE490)</li> <li>IRP(17ECSE491)</li> </ol>
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**Resolution 4.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.**

- Approval of syllabi VII & VIII Semester of 2015 - 19 batch.
- Ratification of scheme for 2016 - 20, 2017 - 21 batch.
- Approval of syllabi V & VI Semester of 2016 - 20 batch.
- Approval of syllabi III & IV Semester of 2017 - 21 batch.
- Approval of syllabus I/II Semester of 2018 - 22 batch.
- Approval of scheme III to VIII Semester of 2018 - 22 batch.
- Minor Programme in CSE for 2019 -21 batch.

  
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<b>BoS 4.5</b>	<p>To consider the Schemes and Syllabi of the postgraduate program in CSE.</p> <p>a) Approval of (scheme &amp; syllabi) of 2018 - 20 batch.</p> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p> <p><b>Action Item No.1: New Courses added</b></p> <ol style="list-style-type: none"> <li>1. Applied Mathematics</li> <li>2. Internet of Things</li> <li>3. Computer Networks</li> <li>4. Data Structure Lab</li> <li>5. Python Programming Lab</li> <li>6. Design and Analysis of Algorithms</li> <li>7. Distributed and Cloud Computing</li> <li>8. Machine Learning</li> <li>9. Software Engineering</li> <li>10. Image and Video Processing</li> <li>11. Cryptography and Network security</li> <li>12. PPEE</li> <li>13. Embedded systems</li> <li>14. CG and Vision</li> <li>15. Parallel Computing</li> <li>16. Social Network analysis</li> <li>17. Wireless and Mobile Networks</li> <li>18. Minor Project</li> </ol>
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**Resolution 4.5: Resolved to approve the Schemes and Syllabi of the postgraduate program.**

a) Approval of (scheme & syllabi) of 2018 - 20 batch.

<b>BoS 4.6</b>	<p>Any other matter for discussion with the permission of the chair</p> <p>Nil</p>
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The Chairperson thanked all the members for the fantastic contributions

Dr. Meena S.M.

Chairperson, BoS, SoCSE

  
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Annexure 4.1
Discussion Item
<p><b>Feedback from Employee</b></p> <ol style="list-style-type: none"><li>1. The students should have fundamental knowledge in core course, OS, Object Oriented Programming.</li><li>2. The Project quality and depth of problem statements needs to be enhanced.</li><li>3. The students area able to answer theoretically on the technical topics however; they could not apply the same to a practical situation.</li><li>4. Most of them lack basic knowledge and analytical skills.</li><li>5. The courses related to data managements need to introduce awareness of industry standards and tool usages.</li><li>6. The business requirement analysis phase of the project needs to be introduced.</li><li>7. The students need to have knowledge and details of the library used in the project.</li></ol> <p><b>Feedback from Faculty --- Pre BoS MOM</b></p> <ol style="list-style-type: none"><li>1. A new course BDA is introduced with associated lab on implementation of Big data analysis using MongoDB and hive.</li><li>2. A group of new program electives (PE) such as SNA, Cyber Security, SDN and NLP were introduced.</li><li>3. Capstone project/Industry project and Electives/Industry Internship of 14 credits &amp; 6 credits respectively was discussed.</li><li>4. The project execution, expectations, delivery approaches, evolution &amp; exam patterns should be incorporated.</li><li>5. In the space of the pedagogical approach of project in relationship with SE course, Industry demands and Alumni inputs is taken. This will be continuous process of improvement for better productivity and projects being discussed.</li></ol> <p><b>Course Feedback:</b></p> <ol style="list-style-type: none"><li>1. Students have asked to conduct training from industry experts on cyber security and information security.</li><li>2. More exposure towards current programming skills.</li></ol> <p><b>Feedback from Alumni:</b></p> <ol style="list-style-type: none"><li>1. Software engineering course need to include topics on DevOps and Jenkins.</li><li>2. Inclusions of version controlling in GitHub can be adopted.</li><li>3. Industry problem statements should be implemented in mini, minor and capstone projects.</li></ol>

  
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Feedback for PG

1	Observations/ Recommendations based on feedback
	<p><b>Feedback from Employee</b></p> <ol style="list-style-type: none"> <li>1. Suggested through revision of the courses to be taught.</li> <li>2. Laboratories to be revised and importance is to be given to the latest technologies also hands on experience should be given lot of importance.</li> <li>3. At least 6 hours per week to be given to the data structure Laboratory.</li> <li>4. Internet of Things to be made as a core course.</li> <li>5. Python programming to be taught as a laboratory course as python is getting more and more importance.</li> <li>6. Design and Analysis of Algorithms to be given Importance with hands on experience.</li> <li>7. One core course on Distributed and Cloud Computing is suggested.</li> <li>8. Software Engineering was suggested to include.</li> <li>9. IoT with Machine Learning and Cloud Computing Projects to be given to the Students.</li> <li>10. Fundamentals to be strengthened and importance to be given to Applied Mathematics rather than only teaching Mathematics.</li> </ol> <p><b>Feedback from Alumni:</b></p> <ol style="list-style-type: none"> <li>1. The students should be exposed to the latest technologies. Computer Vision, AI and Machine Learning and Big Data Analytics and Internet of Things.</li> <li>2. The students should be sent to industry to do Project Work.</li> <li>3. If the students are doing fourth semester project at the university, they must choose a research oriented projects.</li> <li>4. The students should be made to work on real time research oriented projects on Computer Vision, Artificial Intelligence and Computer Network.</li> <li>5. The students should be trained on Applied Mathematics and the fundamentals to be made stronger.</li> </ol> <p><b>Feedback from Faculty --- Pre BoS MOM</b></p> <ol style="list-style-type: none"> <li>1. Fundamentals to be made strong especially Applied Mathematics / Analysis to be given importance.</li> <li>2. Project work and minor projects should be chosen based on the latest technology and the students should be made to work on research oriented projects. Deep Learning / Machine Learning Projects to be given importance.</li> <li>3. The students should be made to publish papers in an International Journals and conferences.</li> <li>4. Hands on experience should be given a lot of importance.</li> <li>5. The members suggested to have one to two hours of practical for each course.</li> <li>6. Number of publications to be increased by doing research oriented projects.</li> </ol> <p><b>Course Feedback:</b></p> <ol style="list-style-type: none"> <li>1. A course on Applied Mathematics to be included instead of only Mathematics.</li> <li>2. Internet of Things to be made as a core and to be taught in the First Semester so that the students will be enable to publish papers.</li> <li>3. Artificial Intelligence and Machine Learning to be includes in the curriculum however hands on Python Programming to be taught in the First Semester only.</li> <li>4. Hands on Data Structure to be given to strengthen the programming skills.</li> <li>5. As the Mobile Application Development is getting more importance in the industry, a course on Mobile Application Development to be included.</li> <li>6. Artificial Intelligence, Internet of Things, Parallel Processing, Distributed and Cloud Computing to be given priority.</li> <li>7. Strongly recommended to go for increased weight of Practical (L-T-P) for every course.</li> </ol>

  
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Annexure 4.4	
Discussion Item	
Actions taken: Based on the feedback from stakeholders, employers, faculty, alumni and students the following actions are initiated.	Course Revised/ Added
	<b>Courses Revised:</b>
Course “Problem Solving with Data Structures” (18ECSP102) is introduced for second semester to strengthen the programming fundamentals using data structure concepts and logical thinking by applying problem solving skills and to solve online coding challenges.	Problem solving with DS(18ECSP102)
Tutorials included in DMS to enhance learning of fundamentals.	Discrete Mathematical Structures- 19ECSC202-(3-1-0)
In Principles of Compiler Design difficulty is observed in designing of context free grammars (CFG) for a given language and self-exploration of tools for building the phases of compiler, to overcome this demonstration on the tools is performed.	Principles of Compiler Design - 19ECSC203 -(3-1-0)
	<b>Courses Introduced:</b>
To enable students to pre-process and handle big data and build application using mongoDB, HIVE, Casandra etc.	Big data analytics (17ECSC401)
SDP aims to design and develop a solution using software design principles: - design patterns (creational, behavioural & structural) , User experience (UX) design and API (application programming interface) that are generally followed in industries.	Senior Design project (20ECSC401) – (0-0-6)
To apply knowledge of AI and deep learning algorithms on embedded systems using android technology to enrich students understanding to port model on embedded platform.	Embedded Intelligent System(18ECSE302)
1. IRP/SRP/REU projects in specialized domains introduced to enhance research skills in focused domain of networking, data analytics and AI/ML .	REU (17ECSE490)
2. A course on institutional research project (IRP) is introduced to provide students an exposure for solving real time projects involving current technologies using KLETech eco systems as a live lab.	IRP(17ECSE491)
3. A course REU is introduced to enable students to take part in the research activities 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 current real time problems.	
Electives like model thinking, semantic web, block chain technology, the ARM architecture, wireless adhoc & sensor networks, advanced parallel computing, NLP and SADT were introduced to map projects that target towards job profile.	Wireless Adhoc& Sensor Networks -18ECSE406 - (3-0-0)
	Advanced Parallel Computing - 18ECSE408 - (3-0-0)
	Natural Language Processing - 18ECSE403 - (3-0-0)
	Software Architecture and Design Thinking -18ECSE410 - (3-0-0)
	Model Thinking - 18ECSE411 - (3-0-0) Computer Networks-1-19ECSC302 -(3-1-0)
	Java Programming -19ECSP301 - (1-0-1.5) - New Course
	Semantic Web – 19ECSE303 – (3-0-0)
	Block Chain Technology – 19ECSE301-(2-0-1)
	The ARM Architecture – 19ECSE302-(2-1-0)





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<ol style="list-style-type: none"> <li>1. To apply knowledge of AI and deep learning algorithms on embedded systems using android technology to enrich students understanding to port model on embedded platform.</li> <li>2. SDP aims to design and develop a solution using software design principles:- design patterns (creational, behavioural &amp; structural) , User experience (UX) design and API (application programming interface) that are generally followed in industries.</li> <li>3. Industry internship training is introduced to enable students for the industry ecosystem while working on live projects.</li> <li>4. Industry internship projects are introduced to enable students to work on industry standards and deadline based project delivery.</li> <li>5. The course on Problem solving with data structures is introduced at first year involving faculty from different disciplines.</li> </ol>	Other course in the department
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Annexure 4.5		
Discussion Item		
Actions taken	Course Revised/ Added	BoS approved Date
<ol style="list-style-type: none"> <li>1. Applied Mathematics is made as a core course.</li> <li>2. Almost every course is given one to two credits of weightage on hands on experience.</li> <li>3. Internet of Things is made as a core course in the first semester.</li> <li>4. Data Structure Lab and Python Programming Lab are introduced.</li> <li>5. Design and Analysis of Algorithms is made four credit course with L-T-P as 2-0-2 so that the students will have strong hands on experience.</li> <li>6. Software Engineering, Machine Learning, Distributed and Cloud Computing and Image Processing are included in the second semester. Each course is given the practical weightage.</li> <li>7. Almost 80% of the total number of courses are redesigned to meet the suggestions given by the students, faculty, industry and the members of the BoS.</li> </ol>	<ol style="list-style-type: none"> <li>1. Applied Mathematics 18ECSC701</li> <li>2. Internet of Things 18ECSC702</li> <li>3. Computer Networks 18ECSC703</li> <li>4. Data Structure Lab 18ECSP706</li> <li>5. Python Programming Lab 18ECSP707</li> <li>6. Design and Analysis of Algorithms 18ECSC709</li> <li>7. Distributed and Cloud Computing 18ECSC710</li> <li>8. Machine Learning 18ECSC711</li> <li>9. Software Engineering 18ECSC712</li> <li>10. Image and Video Processing 18ECSC713</li> <li>11. Cryptography and Network 18ECSC714security</li> <li>12. PPEE 18ECRC701</li> <li>13. Embedded systems 18ECSE715</li> <li>14. CG and Vision 18ECSE716</li> <li>15. Parallel Computing 18ECSE802</li> <li>16. Social Network analysis 18ECSE803</li> <li>17. Wireless and Mobile Networks 18ECSE804</li> <li>18. Minor Project 18ECSW808</li> </ol>	07-04-2018

  
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**Minutes**  
**5<sup>th</sup> Board of Studies Meeting**  
**of**  
**School of Computer Science and Engineering**  
**Hubballi, Karnataka**  
**13<sup>th</sup> April 2019**

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 SoCSE, KLE Technological University, Hubballi which was held on 13th April 2019 at 09:00 am at the C-lite Board Room.

The following members were present.

Sr	Name	Designation	Position
1.	Dr. Meena S. M.	Professor & Head of the School/ Department	Chairman
2.	Dr. V. P. Baligar	Professor, Dean's nominee	Member
3.	Dr. Narayan D. G.	Associate Professor, Dean's nominee	Member
4.	Prof. Vidya Handur	Associate Professor, Dean's nominee	Member
5.	Prof. Prakash Hegde	Assistant Professor, nominated by the concerned Head of the Department/ School	Member
6.	Dr. Kavi Mahesh	Subject expert from outside the college nominated by the Vice-Chancellor	Member
7.	Dr. Pradeep V. Desai	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
8.	Mr. Raju Dixit	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member
9.	Dr. Shankar G.	Associate Professor, Dean's nominee	Member Secretary
10.	Mr. Shashidhar V.	Post graduate meritorious alumnus nominated by Vice Chancellor.	Member
11.	Ms. Sindhu B. Hegde	Student Member representing each of the program offered by the Department/ School/ Center	Member

#### 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 4 <sup>th</sup> BoS meeting held on 4 <sup>th</sup> 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 Computer Science and approve the same. a. Academic Initiatives b. Ratification of scheme for 2016-20, 2017-21, 2018-22 batch. c. Approval of syllabi VII & VIII Semester of 2016 - 20 batch. d. Approval of syllabi V & VI Semester of 2017 - 21 batch. e. Approval of syllabi III & IV Semester of 2018 - 22 batch. f. Approval of programming syllabus I & II Semester of 2019 - 23 batch. g. Approval of scheme III to VIII Semester of 2019 - 23 batch. h. Approval of scheme and syllabus of minor programme in CSE for 2020-22 batch	
5.5	To consider the Schemes and Syllabi of the postgraduate program in CSE. a. Approval of the scheme & syllabi of 2019 - 21 batch.	
5.6	Any other matter for discussion with the permission of the chair	

  
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<b>BoS 5.1</b>	<b>To welcome the BoS Members and present department achievements &amp; initiatives and discussed about the inputs from all stake holders. (Annexure 5.1)</b>
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**Resolution 5.1:** The BoS members appreciated the initiatives of SoCSE and lauded its achievements.

BoS 5.2	<b>To read and confirm the minutes of 4<sup>th</sup> BoS meeting held on 7th April 2018</b>  The following are the minutes of the Board of Studies meeting of SoCSE, KLE Technological University, Hubballi which was held on 7th April 2018 at 10:30 am at the Senate Hall of the University. <b>The following members were present.</b>  <table><tr><th>Sr</th><th>Name</th><th>Designation</th><th>Position</th></tr><tr><td>1.</td><td>Dr. Meena S. M.</td><td>Professor &amp; Head of the School</td><td>Chairman</td></tr><tr><td>2.</td><td>Dr. G. H. Joshi</td><td>Professor , Dean's nominee</td><td>Member</td></tr><tr><td>3.</td><td>Dr. V. P. Baligar</td><td>Professor, Dean's nominee</td><td>Member</td></tr><tr><td>4.</td><td>Dr. S.R. Chickerur</td><td>Professor, Dean's nominee</td><td>Member</td></tr><tr><td>5.</td><td>Dr. S.G. Totad</td><td>Professor, Dean's nominee</td><td>Member</td></tr><tr><td>6.</td><td>Dr. Karibasappa K.G.</td><td>Professor, Dean's nominee</td><td>Member</td></tr><tr><td>7.</td><td>Prof . Narayan D. G.</td><td>Associate Professor,Dean's nominee</td><td>Member</td></tr><tr><td>8.</td><td>Prof. VidyaHandur</td><td>Associate Professor , Dean's nominee</td><td>Member</td></tr><tr><td>9.</td><td>Prof. Prakash Hegde</td><td>Assistant Professor nominated by the concerned Head of the Department/ School</td><td>Member</td></tr><tr><td>10.</td><td>Prof.Phalachandra HL</td><td>Subject expert from outside the collegenominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>11.</td><td>Mr. Ram Jakati</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>12.</td><td>Mr. Shashikumar G.</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>13.</td><td>Mr. Santosh Pawar</td><td>Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor</td><td>Member</td></tr><tr><td>14.</td><td>Prof. Shankar G.</td><td>Associate Professor Dean's nominee</td><td>Member Secretary</td></tr></table>	Sr	Name	Designation	Position	1.	Dr. Meena S. M.	Professor & Head of the School	Chairman	2.	Dr. G. H. Joshi	Professor , Dean's nominee	Member	3.	Dr. V. P. Baligar	Professor, Dean's nominee	Member	4.	Dr. S.R. Chickerur	Professor, Dean's nominee	Member	5.	Dr. S.G. Totad	Professor, Dean's nominee	Member	6.	Dr. Karibasappa K.G.	Professor, Dean's nominee	Member	7.	Prof . Narayan D. G.	Associate Professor,Dean's nominee	Member	8.	Prof. VidyaHandur	Associate Professor , Dean's nominee	Member	9.	Prof. Prakash Hegde	Assistant Professor nominated by the concerned Head of the Department/ School	Member	10.	Prof.Phalachandra HL	Subject expert from outside the collegenominated by the Vice-Chancellor	Member	11.	Mr. Ram Jakati	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member	12.	Mr. Shashikumar G.	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member	13.	Mr. Santosh Pawar	Representative from industry corporate sector/ allied area relating to placement nominated by the Vice-Chancellor	Member	14.	Prof. Shankar G.	Associate Professor Dean's nominee	Member Secretary
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- d. Approval of syllabi III & IV Semester of 2017 - 21 batch.
- e. Approval of syllabus I/II Semester of 2018 - 22 batch.
- f. Approval of scheme III to VIII Semester of 2018 - 22 batch.
- g. Minor Programme in CSE for 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 02<sup>nd</sup> 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 4.4**.

**Action item No.1:** To improve problem solving skills at freshman year

- 1) Problem Solving with DS (18ECSP102).

**Action Item No.2:** Students should have the ability to apply mathematical concepts and fundamental knowledge of core courses to solve computer science engineering problems.

- 1) Discrete Mathematical Structures- 19ECSC202-(3-1-0)
- 2) Principles of Compiler Design -19ECSC203 -(3-1-0)

**Action Item No.3:** Hands on implementation of protocols in networking

- 1) Computer Networks-2- 19ECSC303-(2-0-1.5)

**Action Item No.4:** To enable students to build solutions for big data applications using current industrial tools.

- 1) Big data analytics (17ECSC401)

**Action Item No.5:** the students should be able to design and develop a solution using software design principles

- 1) Senior Design project (20ECSE401) – (0-0-6)

**Action Item No.6:** Elective for electrical sciences that is focused towards AI/ML job profiles.

- 1) Embedded Intelligent System(18ECSE302)

**Action Item No.7:** Electives in all three verticals to be introduced student profile towards targeted job profile.

- 1) Wireless Adhoc& Sensor Networks -18ECSE406 - (3-0-0)
- 2) Advanced Parallel Computing - 18ECSE408 - (3-0-0)
- 3) Natural Language Processing -18ECSE403 - (3-0-0)
- 4) Software Architecture and Design Thinking -18ECSE410 - (3-0-0)
- 5) Model Thinking - 18ECSE411 - (3-0-0)
- 6) Computer Networks-1- 19ECSC302 -(3-1-0)
- 7) Java Programming -19ECSP301 - (1-0-1.5) - New Course
- 8) Semantic Web – 19ECSE303 – (3-0-0)
- 9) Block Chain Technology – 19ECSE301-(2-0-1)
- 10) The ARM Architecture – 19ECSE302-(2-1-0)

**Action Item No.8:** to cater to above average students to enhance research skills in focused domains of networking, data analytics and AI/ML.

- 1) REU (17ECSE490)
- 2) IRP(17ECSE491)

**Resolution 4.4:** Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.

- a. Approval of syllabi VII & VIII Semester of 2015 - 19 batch.
- b. Ratification of scheme for 2016 - 20, 2017 - 21 batch.
- c. Approval of syllabi V & VI Semester of 2016 - 20 batch.
- d. Approval of syllabi III & IV Semester of 2017 - 21 batch.
- e. Approval of syllabus I/II Semester of 2018 - 22 batch.


  
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	<p>f. Approval of scheme III to VIII Semester of 2018 - 22 batch.</p> <p>g. Minor Programme in CSE for 2019 -21 batch.</p>
<b>BoS 4.5</b>	<p>To consider the Schemes and Syllabi of the postgraduate program.</p> <p>a) Approval of (scheme &amp; syllabi) of 2018 - 20 batch.</p> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p> <p><b>Action Item No.1: New Courses added</b></p> <ol style="list-style-type: none"> <li>1. Applied Mathematics</li> <li>2. Internet of Things</li> <li>3. Computer Networks</li> <li>4. Data Structure Lab</li> <li>5. Python Programming Lab</li> <li>6. Design and Analysis of Algorithms</li> <li>7. Distributed and Cloud Computing</li> <li>8. Machine Learning</li> <li>9. Software Engineering</li> <li>10. Image and Video Processing</li> <li>11. Cryptography and Network security</li> <li>12. PPEE</li> <li>13. Embedded systems</li> <li>14. CG and Vision</li> <li>15. Parallel Computing</li> <li>16. Social Network analysis</li> <li>17. Wireless and Mobile Networks</li> <li>18. Minor Project</li> </ol> <p><b>Resolution 4.5: Resolved to approve the Schemes and Syllabi of the postgraduate program.</b></p> <p>a) Approval of (scheme &amp; syllabi) of 2018 - 20 batch.</p>
<b>BoS 4.6</b>	<p>Any other matter for discussion with the permission of the chair</p> <p>Nil</p>

**Resolution 5.2: Resolved to confirm the minutes of its 4<sup>th</sup> BoS meeting held on 7th April 2018**

<b>BoS 5.3</b>	To confirm the action taken report on the minutes of the previous meeting held on 7th April 2018	
<b>Item No</b>	<b>Description</b>	<b>Action Taken</b>
<b>BoS 4.1</b>	To welcome the BoS Members and present department achievements & initiatives and discussed about the inputs from all stake holders. <u>(Annexure 4.1)</u> Resolution 4.1: The BoS members appreciated the initiatives of SoCSE and lauded its achievements.	Noted
<b>BoS 4.2</b>	To read and confirm the minutes of 3 <sup>rd</sup> BoS meeting held on 1st April 2017 Resolution 4.2: Resolved to confirm the minutes of its 2 <sup>nd</sup> BoS meeting held on 18th March 2016	Noted
<b>BoS 4.3</b>	To confirm the action taken report on the minutes of the previous meeting held on 1st April 2017 Resolution: 4.3 Resolved to confirm the action taken report on the minutes of its 3 <sup>rd</sup> BoS meeting held on 1st April 2017. The BoS members appreciated the new initiatives taken by SoCSE.	Noted


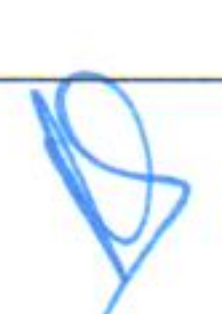
  
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<p>BoS 4.4</p>	<p>To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ol style="list-style-type: none"> <li>Approval of syllabi VII &amp; VIII Semester of 2015 - 19 batch.</li> <li>Ratification of scheme for 2016 - 20, 2017 - 21 batch.</li> <li>Approval of syllabi V &amp; VI Semester of 2016 - 20 batch.</li> <li>Approval of syllabi III &amp; IV Semester of 2017 - 21 batch.</li> <li>Approval of syllabus I/II Semester of 2018 - 22 batch.</li> <li>Approval of scheme III to VIII Semester of 2018 - 22 batch.</li> <li>Minor Programme in CSE for 2019 -21 batch.</li> </ol> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> 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 <b>Annexure 4.4</b>.</p> <p><b>Action itemNo.1:</b> To improve problem solving skills at freshman year</p> <ol style="list-style-type: none"> <li>Problem Solving with DS (18ECSP102).</li> </ol> <p><b>Action Item No.2:</b> Students should have the ability to apply mathematical concepts and fundamental knowledge of core courses to solve computer science engineering problems.</p> <ol style="list-style-type: none"> <li>Discrete Mathematical Structures- 19ECSC202-(3-1-0)</li> <li>Principles of Compiler Design -19ECSC203 -(3-1-0)</li> </ol> <p><b>Action Item No.3:</b> Hands on implementation of protocols in networking</p> <ol style="list-style-type: none"> <li>Computer Networks-2- 19ECSC303-(2-0-1.5)</li> </ol> <p><b>Action Item No.4:</b> To enable students to build solutions for big data applications using current industrial tools.</p> <ol style="list-style-type: none"> <li>Big data analytics (17ECSC401)</li> </ol> <p><b>Action Item No.5:</b> the students should be able to design and develop a solution using software design principles</p> <ol style="list-style-type: none"> <li>Senior Design project (20ECSW401) – (0-0-6)</li> </ol> <p><b>Action Item No.6: Elective for electrical sciences that is focused towards AI/ML job profiles.</b></p> <ol style="list-style-type: none"> <li>Embedded Intelligent System(18ECSE302)</li> </ol> <p><b>Action Item No.7: Electives in all three verticals to be introduced student profile towards targeted job profile.</b></p> <ol style="list-style-type: none"> <li>Wireless Adhoc&amp; Sensor Networks -18ECSE406 - (3-0-0)</li> <li>Advanced Parallel Computing - 18ECSE408 - (3-0-</li> </ol>	<p><b>The BoS members noted the progress of the School and recommended certain action items and timeline.</b></p> <p><b>Action itemNo.1:</b> To improve problem solving skills at freshman year</p> <ol style="list-style-type: none"> <li>Problem Solving with DS (18ECSP102).</li> </ol> <p><b>ATR:</b> A new course problem solving is introduced at freshman level for electrical sciences to appreciate use of appropriate data structures for algorithmic optimization.</p> <p><b>Action Item No.2:</b> Students should have the ability to apply mathematical concepts and fundamental knowledge of core courses to solve computer science engineering problems.</p> <ol style="list-style-type: none"> <li>Discrete Mathematical Structures- 19ECSC202-(3-1-0)</li> <li>Principles of Compiler Design -19ECSC203 -(3-1-0)</li> </ol> <p><b>ATR:</b></p> <ol style="list-style-type: none"> <li>Tutorials included in Discrete Mathematical Structures- 19ECSC202 to work on applications of DMS in solving computer science problems.</li> <li>Principles of Compiler Design -19ECSC203 is introduced for designing of context free grammars (CFG) for a given language and self-exploration of tools for building the phases of compiler using tools.</li> </ol> <p><b>Action Item No.3: Hands on implementation of protocols in networking</b></p> <ol style="list-style-type: none"> <li>Computer Networks-1- 19ECSC302 -(3-1-0)</li> <li>Computer Networks-2- 19ECSC303-(2-0-1.5)</li> </ol> <p><b>ATR:</b> CN-2 is integrated with a lab course to hands on experience on routing security protocols and application layer protocols.</p> <p><b>Action Item No.4:</b> To enable students to build solutions for big data applications using current industrial tools.</p> <ol style="list-style-type: none"> <li>Big data analytics (17ECSC401)</li> </ol> <p><b>ATR:</b> To enable students to pre-process and handle big data and build application using mongoDB, HIVE, Casandra etc.</p> <p><b>Action Item No.5:</b> the students should be able to design and develop a solution using software design principles</p> <ol style="list-style-type: none"> <li>Senior Design project (20ECSW401) – (0-0-6)</li> </ol>
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<p>0)</p> <p>3) Natural Language Processing -18ECSE403 - (3-0-0)</p> <p>4) Software Architecture and Design Thinking - 18ECSE410 - (3-0-0)</p> <p>5) Model Thinking - 18ECSE411 - (3-0-0)</p> <p>6) Computer Networks-1- 19ECSC302 -(3-1-0)</p> <p>7) Java Programming -19ECSP301 - (1-0-1.5) - New Course</p> <p>8) Semantic Web – 19ECSE303 – (3-0-0)</p> <p>9) Block Chain Technology – 19ECSE301-(2-0-1)</p> <p>10) The ARM Architecture – 19ECSE302-(2-1-0)</p> <p><b>Action Item No.8: to cater to above average students to enhance</b> research skills in focused domains of networking, data analytics and AI/ML.</p> <p>3) REU (17ECSE490)</p> <p>4) IRP(17ECSE491)</p> <p><b>Resolution 4.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</b></p> <p>a. Approval of syllabi VII &amp; VIII Semester of 2015 - 19 batch.</p> <p>b. Ratification of scheme for 2016 - 20, 2017 - 21 batch.</p> <p>c. Approval of syllabi V &amp; VI Semester of 2016 - 20 batch.</p> <p>d. Approval of syllabi III &amp; IV Semester of 2017 - 21 batch.</p> <p>e. Approval of syllabus I/II Semester of 2018 - 22 batch.</p> <p>f. Approval of scheme III to VIII Semester of 2018 - 22 batch.</p> <p>g. Minor Programme in CSE for 2019 -21 batch.</p> <p style="text-align: right;">   <b>REGISTRAR</b>  <b>KLE Technological University</b>  <b>HUBBALLI-580 031</b> </p>	<p>ATR: SDP aims to design and develop a solution using software design principles: - design patterns (creational, behavioral structural), User experience (UX) design and API (application programming interface) that are generally followed in industries.</p> <p><b>Action Item No.6: Elective for electrical sciences that is focused towards AI/ML job profiles.</b></p> <p>1) Embedded Intelligent System(18ECSE302)</p> <p>ATR: To apply knowledge of AI and deep learning algorithms on embedded systems using android technology to enrich students understanding to port model on embedded platform.</p> <p><b>Action Item No.7: Electives in all three verticals to be introduced for mapping student profile towards targeted job profile.</b></p> <p><b>ATR:</b></p> <p>1) Electives like model thinking are introduced to build real time applications using model systems and linear time model analysis. Model Thinking - 18ECSE411</p> <p>2) Semantic web involving tools and analyze the web data is introduced to enhance employment opportunities. Semantic Web – 19ECSE303</p> <p>3) An elective NLP introduced for students interested in AI/ML applications. Natural Language Processing -18ECSE403</p> <p>4) Block chain technology and Java programming are introduced for current needs. Block Chain Technology – 19ECSE301 Java Programming -19ECSP301</p> <p>5) Wireless adhoc &amp; sensor networks and ARM architecture are introduced to expose students for IoT based applications in automotive industry. Wireless Adhoc&amp; Sensor Networks -18ECSE406 The ARM Architecture – 19ECSE302</p> <p>6) Advanced parallel computing is introduced to provide knowledge and programming skills for current parallel architectures. Advanced Parallel Computing - 18ECSE408</p> <p>7) SADT is introduced to enable students to appreciate design thinking is an approach to problem solving that puts users at the centre of the solution. Software Architecture and Design Thinking - 18ECSE410</p> <p><b>Action Item No.8: to cater to above average students to enhance</b> research skills in focused domains of networking, data analytics and AI/ML.</p> <p style="text-align: right;">  </p>
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		<p>1) REU (17ECSE490) 2) IRP(17ECSE491)</p> <p><b>ATR:</b></p> <p>1) IRP/SRP/REU projects in specialized domains introduced to enhance research skills in focused domain of networking, data analytics and AI/ML.</p> <p>2) A course on institutional research project (IRP) is introduced to provide students an exposure for solving real time projects involving current technologies using KLETech eco systems as a live lab.</p> <p>3) A course REU is introduced to enable students to take part in the research activities 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 current real time problems.</p>
<b>BoS 4.5</b>	<p>To consider the Schemes and Syllabi of the postgraduate program in CSE.</p> <p>a) Approval of (scheme &amp; syllabi) of 2018 - 20 batch.</p> <p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02<sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting.</p> <p><b>Action Item No.1: New Courses added</b></p> <ol style="list-style-type: none"> <li>1. Applied Mathematics</li> <li>2. Internet of Things</li> <li>3. Computer Networks</li> <li>4. Data Structure Lab</li> <li>5. Python Programming Lab</li> <li>6. Design and Analysis of Algorithms</li> <li>7. Distributed and Cloud Computing</li> <li>8. Machine Learning</li> <li>9. Software Engineering</li> <li>10. Image and Video Processing</li> <li>11. Cryptography and Network security</li> <li>12. PPEE</li> <li>13. Embedded systems</li> <li>14. CG and Vision</li> <li>15. Parallel Computing</li> <li>16. Social Network analysis</li> <li>17. Wireless and Mobile Networks</li> <li>18. Minor Project</li> </ol> <p><b>Resolution 4.5: Resolved to approve the Schemes and Syllabi of the postgraduate program.</b></p> <p>b) Approval of (scheme &amp; syllabi) of 2018 - 20 batch.</p>	<p>The BoS members noted the progress of the School and recommended certain action items and timeline.</p> <p><b>Action Item No.4: Identify industries in focus areas.</b> <b>ATR:</b> Discussion with industries from Infosys, KPIT, Continental, and other industries.</p> <p><b>Action Item No.5: Identify industries for Internships.</b> <b>ATR:</b> Identified about 10 industries, and discussions are at initial stage.</p> <div style="text-align: right;">   <b>REGISTRAR</b>  <b>KLE Technological University</b>  <b>HUBBALLI-580 031</b> </div>





<b>BoS 4.6</b>	Any other matter for discussion with the permission of the chair	
	Nil	

**Resolution: 5.3 Resolved to confirm the action taken report on the minutes of its 4<sup>th</sup> BoS meeting held on 7th April 2018. The BoS members appreciated the new initiatives taken by SoCSE.**

<b>BoS 5.4</b>	<p>To consider the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.</p> <ol style="list-style-type: none"> <li>Ratification of scheme for 2016-20, 2017-21, 2018-22 batch.</li> <li>Approval of syllabi VII &amp; VIII Semester of 2016 - 20 batch.</li> <li>Approval of syllabi V &amp; VI Semester of 2017 - 21 batch.</li> <li>Approval of syllabi III &amp; IV Semester of 2018 - 22 batch.</li> <li>Approval of programming syllabus I &amp; II Semester of 2019 - 23 batch.</li> <li>Approval of scheme III to VIII Semester of 2019 - 23 batch.</li> <li>Approval of scheme and syllabus of minor programme in CSE for 2020-22 batch</li> </ol>	
	<p><b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 13<sup>th</sup> April 2019. 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 <b>Annexure 5.4</b>.</p> <p><b>Action Item No.1: Upgradation in skill sets for distributed storage</b></p> <ol style="list-style-type: none"> <li>DCC (17ECSC305)</li> </ol> <p><b>Action Item No.2: Introduction of electives in security domain</b></p> <ol style="list-style-type: none"> <li>Cyber Security (19ECSE401)</li> </ol> <p><b>Action Item No.3: Knowledge and application of software design principles and</b> focus on leveraging libraries, creating architecture, detailed design and qualitative evaluation.</p> <ol style="list-style-type: none"> <li>Senior Design project (20ECSW401)</li> </ol> <p><b>Action Item No.4: To enable students to work in process automation with the knowledge to</b> automate, create and debug process.</p> <ol style="list-style-type: none"> <li>Robotic process automation (20ECSE301)</li> </ol> <p><b>Action Item No.5:</b> Introduced to enhance research skills in focused domain of networking, data analytics and AI/ML</p> <ol style="list-style-type: none"> <li>SRP(19ECSE493)</li> </ol> <p><b>Action Item No.6: To encourage students on focus on mathematical skills for research oriented applications.</b></p> <ol style="list-style-type: none"> <li>Fuzzy Set Theory -19ECSE402</li> </ol>	

**Resolution 5.4: Resolved to approve the Schemes and Syllabi of the undergraduate program B.E in Computer Science and approve the same.**

- Ratification of scheme for 2016-20, 2017-21, 2018-22 batch.
- Approval of syllabi VII & VIII Semester of 2016 - 20 batch.
- Approval of syllabi V & VI Semester of 2017 - 21 batch.
- Approval of syllabi III & IV Semester of 2018 - 22 batch.
- Approval of programming syllabus I & II Semester of 2019 - 23 batch.
- Approval of scheme III to VIII Semester of 2019 - 23 batch.
- Approval of scheme and syllabus of minor programme in CSE for 2020-22 batch

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<b>BoS 5.5</b>	To consider the Schemes and Syllabi of the postgraduate program. a) a. Approval of scheme & syllabi of 2019 - 21 batch.
	<b>Discussion:</b> Based on the discussions following action, items as agreed upon by everyone were finalized and the same were circulated to all the members on 02 <sup>nd</sup> April 2016. Persons responsible for these action items have already initiated the actions, which will be shared the next BoS meeting. <b>Action Item No.1: New Courses added</b> 1. Parallel Computing 19ECSE717 2. Industrial Training / Mini Project 19ECSW801 3. Project Phase – I 19ECSW801

**Resolution 5.5: Resolved to approve the Schemes and Syllabi of the postgraduate program.**

a. Approval of scheme & syllabi of 2019 - 21 batch.

<b>BoS 5.6</b>	Any other matter for discussion with the permission of the chair
	Nil

The Chairperson thanked all the members for the fantastic contributions

Dr. Meena S.M.

Chairperson, BoS, SoCSE

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Annexure 5.1
Discussion Item
<p><b>Feedback from Employee</b></p> <ol style="list-style-type: none"> <li>1. The students need to focus on Weka, orange, Tableau tools usage in the data preprocessing in DMA and ML.</li> <li>2. The students need to be exposed to Industry related project problem statements.</li> <li>3. The students are able to answer theoretically on the technical topics however; they could not apply the same to a practical situation.</li> <li>4. Improve the fundamentals in core courses and enhance the fundamental skills and analytical skills.</li> <li>5. The students need to exposed technical skills and awareness of industry trends in the field of data management.</li> </ol> <p><b>Feedback from Faculty --- Pre BoS MOM</b></p> <ol style="list-style-type: none"> <li>1. To enhance the automation technology tools skills in the domain of robotic process.</li> <li>2. To introduce course on Block chain Technology to cater to industry requirements.</li> </ol> <p><b>Course Feedback:</b></p> <ol style="list-style-type: none"> <li>1. Students requested to conduct training from industry experts on cyber security and information security.</li> <li>2. The students requested to have workshops and hackathons to improve programming skills.</li> </ol> <p><b>Feedback from Alumni:</b></p> <ol style="list-style-type: none"> <li>1. To inculcate innovation, IPR, entrepreneurship skills to be brought into practice by organizing or attending workshops. Inclusions of version controlling in GitHub can be adopted.</li> <li>2. To identify set of companies to focus on industry-student profile match</li> <li>3. Industry institute collaborations need to be increased in the focused area of networks and data analytics.</li> </ol>

Feedback for PG
1 Observations/ Recommendations based on feedback
<p><b>Feedback from Employee</b></p> <ol style="list-style-type: none"> <li>1. Since Major Revisions of the courses were made previous year, no revisions are suggested to the courses taught.</li> <li>2. Industrial Training / Mini Project and Project Work Phase One is included in Third Semester and Project Work Phase two is included in Fourth Semester.</li> </ol> <p><b>Feedback from Alumni:</b></p> <ol style="list-style-type: none"> <li>1. Since Major Revisions of the courses were made previous year, no revisions are suggested to the courses taught.</li> <li>2. Industrial Training / Mini Project and Project Work Phase One is included in Third Semester and Project Work Phase two is included in Fourth Semester.</li> </ol> <p><b>Feedback from Faculty --- Pre BoS MOM</b></p> <ol style="list-style-type: none"> <li>1. Since Major Revisions of the courses were made previous year, no revisions are suggested to the courses taught.</li> <li>2. Industrial Training / Mini Project and Project Work Phase One is included in Third Semester and Project Work Phase two is included in Fourth Semester.</li> </ol> <p><b>Course Feedback:</b></p>



1. Since Major Revisions of the courses were made previous year, no revisions are suggested to the courses taught.
2. Industrial Training / Mini Project and Project Work Phase One is included in Third Semester and Project Work Phase two is included in Fourth Semester.

Annexure 5.4	
Discussion Item	
Actions taken: Based on the feedback from stakeholders, employers, faculty, alumni and students the following actions are initiated.	Course Revised/ Added
	<b>Courses Revised:</b>
Inclusion of storage from cloud, SaaS and skills for distributed storage in DCC course	DCC (17ECSC305)
The training sessions are carried out in cyber security course for incremental adding of security to the software namely password at first level, including captcha, one-time password (OTP), encryption and decryption during data communication.	Cyber Security (19ECSE401)
<ol style="list-style-type: none"> <li>1. Introduction of senior design project (20ECSW401) to focus on leveraging libraries, creating architecture, detailed design and qualitative evaluation.</li> <li>2. SDP aims to design and develop a solution using software design principles:- design patterns (creational, behavioral &amp; structural) , User experience (UX) design and API (application programming interface) that are generally followed in industries.</li> </ol>	Senior Design project (20ECSW401)
	<b>Courses Introduced:</b>
Robotic process automation (20ECSE301) course is introduced to automate, create and debug fundamentals using UiPath studio.	Robotic process automation (20ECSE301)
SRP projects in specialized domains introduced to enhance research skills in focused domain of networking, data analytics and AI/ML.	SRP(19ECSE493)
Introduction of fuzzy set theory to implement the concepts of fuzzy functions and logic to problems in image processing and pattern recognition.	Fuzzy Set Theory -19ECSE402 (3-0-0)

Annexure 5.5		
Discussion Item		
Actions taken	Course Revised/ Added	BoS approved Date
<ol style="list-style-type: none"> <li>1. Since Major Revisions of the courses were made previous year, no revisions are made to the courses taught.</li> <li>2. Industrial Training / Mini Project and Project Work Phase One is included in Third Semester and Project Work Phase two is included in Fourth Semester.</li> </ol>	Parallel Computing 19ECSE717  Industrial Training / Mini Project 19ECSW801  Project Work Phase – I 19ECSW802	15-04-2019





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